# TABLE OF CONTENTS

# EXECUTIVE SUMMARY

The City of San José (City) administers and implements the requirements of the National Pollutant Discharge Elimination System (NPDES) permit for the San José/Santa Clara Water Pollution Control Plant (Plant) on behalf of San José, Santa Clara and the Tributary Agencies. The City's continuing strategy is to focus on integrating local and regional programs to achieve cost-effective protection of the South San Francisco Bay (South Bay) as well as ongoing assessment of the programs to ensure continuous improvement. This report documents permit related activities during the period January 1, 2001 to June 30, 2001.

## Flow Reduction

The City continues to work on salt marsh habitat protection through flow reduction efforts. As required by San Francisco Bay Regional Water Quality Control Board (Regional Board), the City must maintain freshwater discharges from the Plant to the South Bay below an average of 120 million gallons per day (mgd) during three consecutive months of the six-month dry weather season from May to October. Highlights for this reporting period include:

- The Plant's average dry weather effluent flow has now been kept below the required 120 mgd for three consecutive years.
- The South Bay Water Recycling Program (SBWR) including Plant irrigation diverted an average of 9.9 and 11.5 mgd in May and June, respectively.
- The City Council approved SBWR Phase II near-term master plan which is designed to improve system reliability and increase flow diversion while remaining within the available funding.
- Indoor water conservation programs reduced flow by 4.9 mgd since 1997. Produced the *Water Challenges* brochure, the *Fix it Guide*, and the *Water for Summer* Campaign.

The City recently completed an assessment of the flow reduction programs included in the 1997 *Revised South Bay Action Plan.* The purpose of the assessment was to ensure that the City's energies were focused on the programs that provided maximum flow reduction, endangered species habitat protection and cost efficiency. This analysis will also be the basis for a longer-term strategic planning process to investigate flow reduction programs including alternatives beyond the current programs and the path for the next five years.

## Pollutant Reduction

The Plant, for the fourth consecutive year, permitted industrial copper and nickel loading are below the 1997 NPDES baseline.

The Plant returned to compliance in April after exceeding zinc mass limits during January, February and March. The mass loading exceedances encountered over the past year occurred as a result of the Santa Clara Valley Water District's (Water District) increase in zinc orthophosphate to better control corrosion. Since this determination, the City has been working with the Water District to fulfill the conflicting regulatory mandates within the Safe Drinking Water and Clean Water Acts. The Water District has been conducting bench scale

tests of alternative corrosion control additives. Their goal is to reduce the use of zinc to the maximum extent practical.

The City anticipates the possibility of future zinc mass limit exceedances until

- The Water District finds a methodology that successfully reduces zinc usage;
- The performance-derived limitation is modified to reflect current performance conditions; or
- The limit is allowed to reflect a mass credit for the Water District corrosion control practices to meet their Safe Drinking Water Act requirements.

## Research and Special Studies

The City researches and compiles special studies for a better understanding of the beneficial uses of the South Bay. The following are the highlights for this reporting period:

- The Special Effluent Study For Certain Organic Pollutants was completed in March 2001 and was published as the *South Bay/Fairfield-Suisun Trace Organic Effluent Study*.
- Ambient dry weather dissolved copper and nickel levels in the South Bay remained well below the 1997 *Revised South Bay Action Plan* trigger levels.
- The Regional Board approved the Watershed Management Initiative's (WMI's) Bay Monitoring and Modeling Subgroup workplan for developing a site-specific objective for copper and nickel and amending the Basin Plan to reflect this objective.
- Council approved the four-year Bioassessment Program contract with the San Francisco State University's Romberg Tiburon Center for Environmental Studies.

## Regional Cooperative Efforts

The City continued its active involvement in several regional cooperative efforts. Activities included:

- The Regional Board issued its provisions for the 2000-2005 Stormwater NPDES Permit for the members of the Santa Clara Valley Urban Runoff Pollution Prevention Program.
- WMI published the unabridged *Watershed Characteristics Report*, the first volume of the *Watershed Management Plan*.
- WMI completed design of a brochure to communicate WMI's vision to the public.
- The City submitted the final *Alum Rock Park Riparian Management Plan* to the Regional Board.
- Council approved the draft of the *Riparian Restoration Action Plan.*
- The City provided $300,000 in grants to various organizations to encourage work and awareness in the watershed.
- Continued the Cost Sharing Agreement with the Water District to support water conservation activities.
- Created a region-wide Spanish outreach materials database.

- Developed a regional *Restaurant Grease Information Sheet*.

For further details on the schedule for completion and on the current status of various elements, refer to Appendix A.

## ABBREVIATIONS

| | |
|---|---|
| ADWEF | Average Dry Weather Effluent Flow |
| Audit | Flow Audit Study |
| Bay | San Francisco Bay |
| BMM | Watershed Management Initiative Bay Monitoring and Modeling Subgroup |
| BMP | Best Management Practice |
| BACWA | Bay Area Clean Water Agency |
| BADA | Bay Area Dischargers Association |
| BAPPG | Bay Area Pollution Prevention Group |
| BASMAA | Bay Area Stormwater Management Agencies Association |
| CBS | Clean Bay Strategy |
| CII | Commercial, Industrial, Institutional |
| City | City of San José |
| CPP | Community Partnership Program |
| EIR | Environmental Impact Report |
| ESD | Environmental Services Department |
| Fee-for Service | Single Family Dwelling Fee for Service |
| Group 1 | Industrial User using copper and nickel in their process and discharging more than 0.04 or 0.09 pounds per day of copper or nickel, respectively |
| Group 2 | Any Industrial User no falling into either Group 1 or Group 3 |
| Group 3 | Industrial User not using either copper or nickel in their process and discharges less than 1000 gallons per day |
| H-Axis | Horizontal Axis |
| IU | Industrial User |
| MEEA | Mid-Peninsula Environmental Educators Association |
| MFD | Multi-Family Dwelling |
| MOU | Memoranda of Understanding |
| NOI | Notice of Intent |
| NPDES | National Pollutant Discharge Elimination System |
| Observatory | San Francisco Bay Bird Observatory |
| Plant | San José/Santa Clara Water Pollution Control Plant |
| PCBs | Polychlorinated Biphenyls |
| POTW | Publicly Owned Treatment Works |
| Regional Board | San Francisco Bay Regional Water Quality Control Board |
| RMP | Regional Monitoring Program |
| SBWR | South Bay Water Recycling |
| South Bay | San Francisco Bay, South of Dumbarton Bridge |
| SSO | Site Specific Objectives |
| Urban Runoff Program | Santa Clara Valley Urban Runoff Pollution Prevention Program |
| TMDL | Total Maximum Daily Loads |
| Tributary Agencies | San José; Santa Clara; Milpitas; Cupertino Sanitary District; West Valley Sanitary District – Cambell, Los Gatos, Monte |

| | |
|---|---|
| | Serano, and Saratoga; County Sanitation Districts 2 and 3, and Sunol and Burbank Sanitary Districts |
| ULFT | Ultra-Low Flush Toilet |
| U.S. EPA | United States Environmental Protection Agency |
| Water District | Santa Clara Valley Water District |
| WE&O | Watershed Education and Outreach |
| WET | Water Efficient Technologies |
| WLA | Waste Load Allocation |
| WMI | Santa Clara Basin Watershed Management Initiative |
| Youth Grants | Youth Watershed Education Grants Program |

## UNITS OF MEASURE

| | |
|---|---|
| af/yr | acre-feet per year |
| ccf | hundred cubic feet |
| gpd | gallons per day |
| lbs/day | pounds per day |
| lf | linear feet |
| mgd | million gallons per day |
| ppm | parts per million |
| ppb | parts per billion |
| ppt | parts per trillion |

# I FLOW REDUCTION AND WETLANDS MITIGATION

The City of San José (City) administers the San José/Santa Clara Water Pollution Control Plant (Plant) on behalf of the Tributary Agencies. In response to marsh conversion and the need to protect endangered species' habitat, the City proposed the *San José Action Plan* in 1991.[1] The San Francisco Bay Regional Water Quality Control Board (Regional Board) approved, and the City adopted, the *San José Action Plan* with a goal to reduce flows from the Plant to under 120 million gallons per day (mgd). The three main components of that plan were marsh mitigation, water conservation, and water recycling

The City proposed a *Revised South Bay Action Plan* in June 1997 amidst concerns that the Plant had attained several milestones outlined in the 1991 *San José Action Plan,* but was still exceeding the 120 mgd trigger.[2] The Regional Board approved and incorporated the *Revised South Bay Action Plan* in the Plant's 1998 National Pollutant Discharge Elimination System (NPDES) permit.[3] The 1997 *Revised South Bay Action Plan (Action Plant)* called for expanding South Bay Water Recycling (SBWR), promoting the industrial water recycling and reuse, expanding indoor water conservation, furthering the inflow/infiltration reduction, and developing environmental enhancement projects.

## Recent Revised South Bay Action Plan Developments

The City recently prepared an assessment of the flow reduction programs contained in the *Action Plan*. The programs were assessed using a cost-benefit methodology to ensure that the goals of the *Action Plan*, the maintenance of flows below 120 mgd, and the protection of endangered species' habitats are achieved in the most cost-effective manner.

The cost-benefit methodology was used as a decision making tool, along with other factors such as regulatory requirements and stakeholder input, to allow for comparison of current and potential flow reduction programs. The analysis will form the basis for a longer-term strategic planning process in support of the Plant's NPDES permit application due in December 2002. The longer-term strategic plan will further analyze current and proposed flow reduction programs. This planning process will also include the investigation of alternatives beyond the current flow reduction programs. The goal is to identify next series of flow management and habitat protection strategies and projects that provide a broad range of cost-effective environmental benefits.

A detailed look at the progress of each program in the *Action Plan* is presented in the subsections that follow. The combined effort of these programs is expected to maintain the average dry weather effluent flow (ADWEF) below 120 mgd. [4]

[1] In accordance with Board Order 91-152
[2] In accordance with Board Order 97-111
[3] Board Order 98-052
[4] Average Dry Weather Effluent Flow is the lowest average discharge flow rate for any 3 consecutive months between May and October

## Table 1: March-May 2001 Plant Flows

| MONTH | FLOW, mgd | | |
|---|---|---|---|
| | INFLUENT | DIVERTED* | EFFLUENT |
| January | 125.9 | 1.5 | 124.4 |
| February | 131.4 | 1.5 | 129.9 |
| March | 131.8 | 2.6 | 129.2 |
| April | 124.7 | 3.8 | 120.9 |
| May | 124.0 | 9.9 | 114.1 |
| June | 122.1 | 11.5 | 110.6 |
| **Average** | **126.8** | **5.4** | **121.4** |

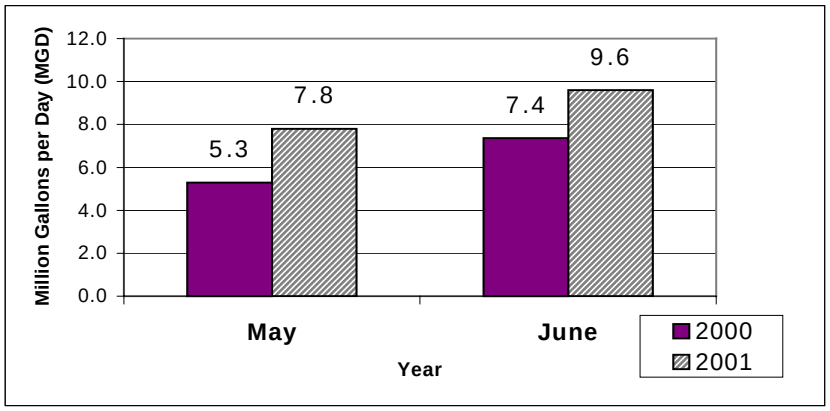
* Includes Recycled Water to SBWR distribution system, seasonal storage at the Plant, and Plant irrigation

Table 1 shows the flow for this reporting period. Note that the 120 mgd requirement is expected to be met with the first three months of the ADWEF season based on the trend over the past six months.

## *I-A SOUTH BAY WATER RECYCLING*

SBWR is an on-going program developing the infrastructure for and promoting the use of recycled water for landscape irrigation and industrial uses in Santa Clara County and the South Bay area. The average recycled water deliveries to permitted customers for the dry weather months of May-June 2001 increased by 48% and 38%, respectively as shown in Figure 1.

## Figure 1: Comparison of Average Recycled Water Flow for May and June 2000 and 2001



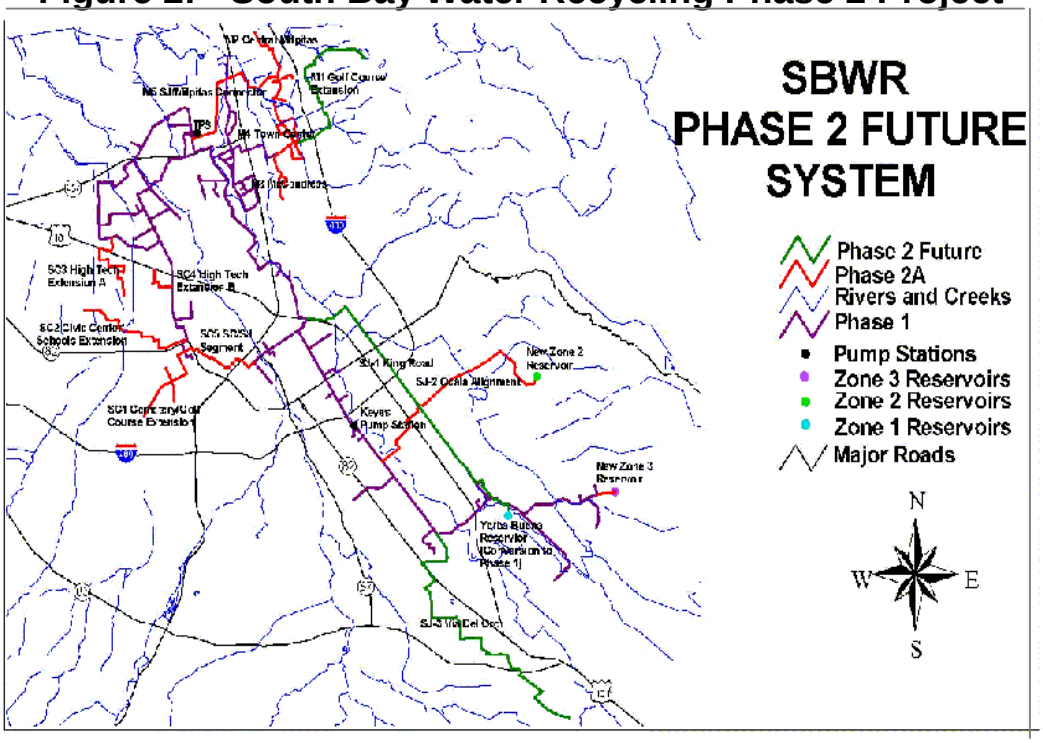
## Findings and Accomplishments

The current Phase 1 system consists of 60 miles of pipe providing high quality recycled water to over 320 customers in Milpitas, San Jose and Santa Clara at a cost of $140 million. In June 2001, the Council approved an initial Phase 2 project to connect additional customers at a capital cost of $82.5 million.

The City connected sixteen additional customers to the recycled water system in the past six months, bringing the total number of customers to 322 with an estimated 9.6 mgd average monthly dry weather demand. The City also completed construction of an extension of the main pipeline in Santa Clara. This extension will allow SBWR to serve 12 additional customers. (See Section V-A2 for a summary of marketing activities completed during this period.)

Evaluation of system expansion will continue as well. This year's assessment of the 1997 *Revised South Bay Action Plan* determined that expansion of the SBWR system has the greatest near-term and long-term flow diversion potential with the least amount of risk. The assessment also evaluated several potential near-term improvements and system expansions designed to divert an additional 10 mgd by connecting customers to the system at a total cost of $185 million (See Figure 2). In June, Council approved a limited expansion of the SBWR system, including reliability improvements, the development of two reservoirs, and infill projects, which should increase demand by an additional 5 mgd at a capital cost of $82.5 million. In addition, the City has begun discussions with the Santa Clara Valley Water District (Water District) for the development of a joint funding agreement for the additional system expansion to serve South Santa Clara County.

**Figure 2: South Bay Water Recycling Phase 2 Project**



The Action Plan Assessment also identified and evaluated long-term water recycling alternatives that could provide up to 100 mgd of recycled water. These long-term alternatives include expanded urban non-potable reuse, export of recycled water for agricultural use, and further treatment for potable use of recycled water. These long-term alternatives may provide benefits above and beyond those provided by local urban reuse.

### Next Steps

SBWR is expecting to complete the connection of the 12 new customers along the new Santa Clara extension by December 2001. Construction of additional pipeline extensions in Milpitas is expected to begin during the next six months. The City will continue negotiations with the Water District to develop a cost-sharing agreement for participation in the $185 million near-term plan, and continue evaluation of long-term water recycling alternatives in close partnership with the tributary agencies, the Water District and other stakeholders.

## *I-B INDUSTRIAL RECYCLE AND REUSE*

The objective of Industrial Recycle and Reuse efforts is to ensure that Industrial Users (IUs) in the Plant's service area are reducing the use of potable water, recycling their own wastewater, and/or using recycled water from SBWR in their facilities to the maximum extent practical.

For this reporting period, efforts were focused on revising the Flow Audit Study (Audit) Protocol, tracking and reviewing implementation of projects identified in the *July 2000 Flow Audit Study Summary Report,* finalizing industrial reuse guidelines and drafting cooling tower guidelines.

### Findings and Accomplishments

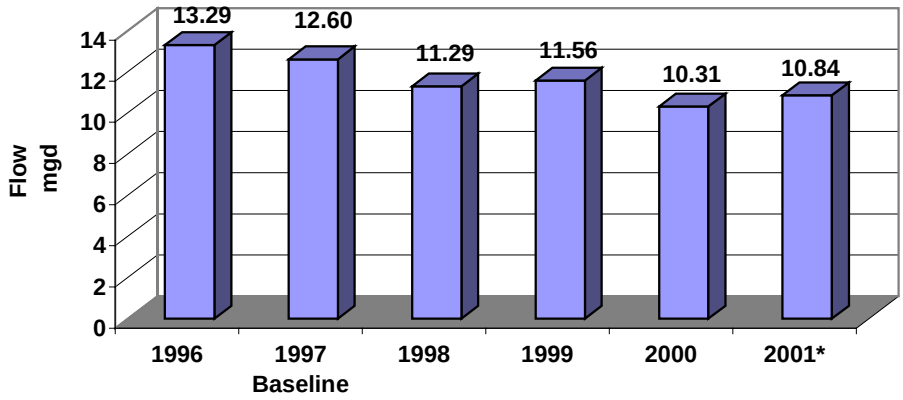
### I-B1 FLOW AUDIT STUDY

Based on an analysis of the July 2000 Audit summary results (the report is available at http://www.ci.san-jose.ca.us/esd/fas.htm), the City streamlined its *Flow Audit Study Protocol* (available with the summary report.)

The new protocol will be easier to complete and will more effectively target water reduction measures. The City will continue to require Audits from facilities discharging 100,000+ gpd as they are identified based on the flows for 2000.

The City is also developing a strategy to ensure ongoing implementation of projects identified in the *July 2000 Flow Audit Study Summary Report.* A recent review of Audit projects indicated that 11 projects were completed in the past year with an estimated potential savings of 168,052 gpd. Of those, amount 8 Audit projects were completed as part of the Water Efficiency

## Figure 3: Average Flow from Permitted Dischargers




* Flow from April 1, 200 through May 1, 2001 and includes newly permitted non-industrial facilities such as hospitals and jails

Technologies (WET) program for a total documented flow reduction of 151,024 gpd. The remaining 3 projects were reported by Audit companies with an estimated 17,028 gpd reduction. Based upon feedback from Audit participants, the recent economic downturn has impacted resources at many firms, reducing the number of flow reduction projects undertaken.

### I-B2 INDUSTRIAL DISCHARGERS

The City continued to work with industrial dischargers to reduce flows to the Plant by offering financial incentives (see section I-C2 for information on the Water Efficient Technologies program) and technical support. Figure 3 illustrates the net trend in industrial flows based on the average discharge for the previous 12 months since 1996.

### I-B3 INDUSTRIAL WASTEWATER REUSE GUIDELINES

The City continued to work on developing guidelines for new and existing facilities seeking to reuse their industrial wastewater. These guidelines will standardize water reuse requirements, assist City Departments in evaluating reuse projects, and help maintain a level of consistency during the various permitting processes.

Two City departments are working together to review and finalize the requirements. Once the guidelines are approved, they will be used by the City to streamline the building permit process.

### I-B4 COOLING TOWER GUIDELINES

The City is also developing guidelines for using recycled water from SBWR and/or reusing industrial process water in cooling towers. The core audiences for these guidelines are industrial and commercial cooling tower owners; heating, ventilation, and air-conditioning system (HVAC) operators; and maintenance personnel. These guidelines will include some or all of the following topics:

- Management of cooling towers to protect water quality,
- Operation of cooling towers to maximize efficiency and minimize water use, and
- Considerations for using SBWR recycled water or reusing process waters.

A draft of these guidelines is under review. When finalized, the guidelines will be included in the *CBS Report.*

#### Next Steps

- The City will continue to require flow audit studies for facilities newly identified as discharging 100,000+ gpd.
- The City will survey the implementation of projects identified in the *July 2000 Flow Audit Study Summary Report*.
- The City will continue to identify the necessary incentives required to increase project implementation.
- The industrial reuse guidelines and the cooling tower guidelines will be included in the *CBS Report* when finalized.
- The City will continue to investigate additional cooperative efforts with individual industries as well as larger industrial groups to maximize industrial flow reductions.

## *I-C INDOOR WATER CONSERVATION*

Indoor water conservation reduces the amount of water use in residential, commercial, industrial and institutional settings and thus, the volume of wastewater ultimately flowing to the Plant and the South Bay. The City has an indoor water conservation goal in the *Revised South Bay Action Plan* of 5-8 mgd over five years, with an annual flow reduction goal of not less than 1 mgd. Since January 2001, the City has achieved 596,921 gallons per day in flow savings. Over 4.9 mgd of indoor flow reduction has been achieved since 1997. With program plans for fiscal year 2001/2002 (both City and District programs), the City anticipates achieving between 5 and 7 mgd in conservation savings over the 5 year period.

Indoor water conservation efforts focus primarily on the residential sector where approximately 70% of the Plant's flows originate. Toilet use is responsible for most

of the residential flow. Therefore, the residential programs emphasize the retrofit to Ultra-Low Flush Toilets (ULFTs), which is considered the most effective indoor residential water conservation measure currently available. Individual program incentives depend on the program element and community sectors targeted (see discussion below), and currently include full service installation, fee-for-service installation, and ULFT distribution events. In the business sector, the City's efforts include toilet retrofits and the Water Efficient Technologies (WET) program.

The City has a cost sharing agreement with the Water District through which the agencies collaborate on water conservation outreach and support each other's water conservation programs. The agreement includes UFLT retrofit programs, WET, Horizontal-axis Washing Machine Rebates (commercial and residential), and sub-metering for mobile home parks. Detailed information regarding all of these programs follows. (See Section V-A2 for a summary of marketing activities for these programs.)

As discussed in the January 2001 CBS, the flow savings figures (e.g. 30 gallons per day savings per ULFT per single family dwelling) reported here are based on the flow savings estimates the City originally used to determine its indoor water conservation goals in the *Revised South Bay Action Plan*. The City still plans to move to new flow savings estimates (e.g. 18 gallons per day savings per ULFT single family dwelling) in the next *Revised South Bay Action Plan*. Based upon a model developed by the California Urban Water Conservation Council, these new numbers are used by the Water District and will make the City's flow savings estimates more comparable to those used by other water conservation programs statewide. Table 2 shows flow reduction achieved using the original savings estimates.

## I-C1 ULFT PROGRAMS

The City has implemented the following ULFT retrofit programs.

### *I-C1.1 ULFT REBATE PROGRAM*

A final update was included in the July 2000 CBS.

### *I-C1.2 COMMUNITY PARTNERSHIP PROGRAM (CPP)*

This program provides free installation, associated hardware, recycling of replaced toilets, and one-year follow-up service for both parts and labor. It targets "hard-to-reach" communities such as low-income, disabled, and elderly homeowners who may be unlikely to retrofit their older toilets on their own. In fiscal year 2000/2001, this program was expanded to include the entire Plant service area. The goal was increased to 7,500 toilet installations and the period of availability was extended to July 31, 2001. Table 2 shows the number of toilets installed and the associated flow reduction for this program. The extension was recommended because the difficulties in implementing the Small

# Table 2: Water Conservation Programs and Flow Reduction Accomplishments

| Program | # Units/Applications | | | | Flow Reduction (gpd) | | | |
|---|---|---|---|---|---|---|---|---|
| | Fiscal Year 2000/2001 Goal | Reporting Period Total (Jan-June 2001) | Fiscal Year 2000/2001 to Date | Program Total Fiscal Year 1997/1998 to Date | Fiscal Year 2000/2001 Goal | Reporting Period Total (Jan-June 2001) | Fiscal Year 2000/2001 to Date | Program Total Fiscal Year (1997/1998 to Date) |
| ULFT Programs | | | | | | | | |
| Rebate** | NA | 0 | 0 | 49,504 | NA | 0 | 0 | 1,800,000 |
| CPP* | 7,500 | 5,311 | 6,709 | 21,774 | 140,000 | 159,330 | 201,270 | 653,575 |
| Small MFD* | 7,700 | 1,727 | 1,842 | 1,842 | 275,660 | 120,890 | 128,940 | 128,940 |
| Fee-for-Service* | 3,000 | 1,526 | 1,863 | 1,863 | 56,700 | 45,780 | 55,890 | 55,890 |
| MFD** Voucher | NA | 6 | 683 | 19,887 | NA | 420 | 38,120 | 1,120,050 |
| CII | 500 | 101 | 175 | 3,199 | 10,000 | 4,848 | 8,400 | 153,552 |
| Distribution | 1,200 | 0 | 1,014 | 1,299 | 36,000 | 0 | 31,330 | 40,230 |
| Water District Distribution* | 6,200 | 28 | 28 | 28 | 120,000 | 1,000 | 1,000 | 1,000 |
| Water District MFD* | 3,500 | 437 | 437 | 437 | 130,000 | 24,035 | 24,035 | 24,035 |
| Water District CII | 750 | 472 | 472 | 472 | 36,000 | 22,656 | 22,656 | 22,656 |
| Non-ULFT Programs | | | | | | | | |
| WET | NA | 8 | 10 | 32 | 300,000 | 176,243 | 176,975 | 737,696 |
| H-Axis Washer Rebates* | 4,000 | 2,079 | 3,710 | 12,792 | 56,000 | 30,353 | 54,166 | 186,763 |
| Commercial Washer Rebates* | 750 | 196 | 254 | 265 | 27,000 | 11,366 | 14,563 | 15,355 |
| **Indoor Water Conservation Total** | | | | | | | | |
| | | | | | **1,187,360** | **596,921** | **757,345** | **4,939,742** |

* These numbers are estimates. Final numbers will be presented in the next report.

** The final flow reductions for the ULFT and MFD Voucher Program are from rebates and applications approved before July 2000.

Multi-Family Dwellings (MFDs) portion of the contract (detailed below) are impacting the contractor's ability to fulfill this portion of the contract.

### *I-C1.3 MULTI-FAMILY DWELLING VOUCHER PROGRAM*

The City's MFD Voucher Program ended prior to the July, 2000 CBS Report. Table 2 includes the final savings from the final outstanding vouchers.

### *I-C1.4 COMMERCIAL, INDUSTRIAL, AND INSTITUTIONAL ULFT PROGRAM*

The Commercial, Industrial, And Institutional (CII) ULFT program includes a City Facilities Program and a CII Voucher Program. Total flow savings are shown in Table 2.

#### City Facilities Program

The City Facilities Program retrofits selected municipal facilities with ULFTs. The City has nearly completed the retrofit of its municipal facilities. The non-retrofitted toilets in San José and other tributaries will be replaced during the upcoming phase of the program. Of the seven other tributary cities, Monte Sereno reports having completed all retrofits and Los Gatos, Saratoga, Campbell, Cupertino, Milpitas and Santa Clara have indicated interest in a City sponsored program to retrofit their facilities.

The original registration deadline of December 31, 2000 was extended through February 2001 for the few tributary cities that had not yet expressed interest. The retrofit work will begin upon finalization of an agreement in fiscal year 2001/2002 and will be completed over the following twelve months. The program offers full retrofit services, providing the hardware and labor to replace older, high flow toilets with ULFTs and a portion of the recycling costs. No retrofits were completed in this program in this reporting period

#### CII Voucher Program

The CII Voucher Program offers from $100 to $150 per toilet retrofit to businesses. The City and the Water District have divided up the CII toilet market to better meet the needs of each target sector. Since January 2001, the Water District program has targeted businesses such as restaurants, wholesale facilities (e.g. Costco), and other establishments with high occupant/restroom ratios with a full service installation program. Their program is gaining momentum and has installed 472 ULFTs in the CII sector during this reporting period. The City continues to offer its CII Voucher Program to all other CII sectors, and to businesses that participate in the WET. The City-sponsored CII program achieved 101 retrofits from January to June, 2001

### *I-C1.5 SMALL MULTI-FAMILY DWELLING PROGRAM*

The MFD Voucher Program was replaced with one that targets the many owners and managers of small MFD complexes. Although the program includes complexes containing up to 50 units, the program's focus is on complexes with 20 or less units. It is assumed that these managers have little time to manage a toilet retrofit project on their own as required by the previous MFD Voucher Program. For a $15 fee, the Small MFD program provides a new toilet, associated hardware, installation, and recycling of all replaced toilets, as well as one-year follow-up service for both parts and labor.

On February 13, 2001, because of several programmatic challenges, the City Council approved the transfer of 2000 ULFTs from the installation goal for Small MFD to the Single Family Dwelling Fee-for-Service Program (Fee-for-Service). However, through the contract's Extended Service Period, the Small MFD program should still be able to install 12,200 toilets by September 2001. The program achieved approximately 1,727 retrofits between January and June, 2001.

### *I-C1.6 SINGLE FAMILY DWELLING FEE-FOR-SERVICE PROGRAM*

Fee-for-Service is designed for single-family homeowners who are not eligible for the CPP. For $50 per toilet, Fee-for-Service provides installation of a new ULFT and associated hardware, recycling of replaced toilets, and one-year follow-up service for both parts and labor. On February 13, 2001 the City Council approved a transfer of 2000 ULFTs from the installation goal for the Small MFD Program to Fee-for-Service, increasing the Fee-for-Service installation goal to 3000 ULFTs by July 31, 2001.

### *I-C1.7 COUNTY WIDE PROGRAMS*

Through the Cost Sharing Agreement discussed earlier, the City is collaborating with the Water District on the following ULFT Programs.

#### Single-Family Dwelling Ulft Distribution Program

As partial replacement for the ULFT Rebate Program, the Water District is conducting a ULFT Distribution program geared mostly at single-family dwellings throughout Santa Clara County. Through this program, residents can pick up free toilets and arrange for installation on their own. The toilets they replace must be recycled or the resident is charged for the toilet. The Tributary-wide goal for the program is 6,000 toilet retrofits by August 31, 2001. The Water District achieved approximately 28 retrofits between January and June, 2001.

Full-Service Installation Programs

The Water District is conducting a full-service installation program for MFDs with 21 or more dwellings. This program's Tributary-wide program goal is 3,000 toilets. Additionally, the Water District is conducting a full-service installation program geared at sectors of the Commercial, Industrial, and Institutional (CII) communities that have been identified as having significant water conservation potential. This Tributary-wide program goal is 750 ULFT retrofits by August 31, 2001. The Water District achieved approximately 437 retrofits between January and June 2001.

## I-C2 WATER EFFICIENT TECHNOLOGIES

WET is a financial incentives program that provides rebates of up to $50,000 per project to companies that implement equipment and/or process changes to reduce the amount of discharge to the sanitary sewer. Rebate amounts are based on the amount of flow a project achieves, at a rate of $4 per ccf/year of flow savings. For an operation that runs everyday, the rebate translates to approximately $2 for every gpd saved.

Overall, marketing through direct mail and print advertisements has not generated significant activity. Despite increased program marketing, accomplishments for this year fell short of the fiscal year 2000/2001 goal of 300,000 gpd, as noted in Table 2. However, in the commercial sector, two facilities did complete projects - the first from the sector in more than two years.

## I-C3 OTHER WATER CONSERVATION PROGRAMS

### *I-C3.1 HORIZONTAL AXIS WASHER REBATE PROGRAM*

Since 1998, the City has co-funded the Water District's participation in the Horizontal Axis (H-Axis) Washer Rebate Program offered by PG&E. This program offers customers a rebate for the purchase of water and energy efficient appliances. A summary of units sold for the reporting period is shown in the Table 2.

PG&E discontinued its $75 contribution to the Water District's Horizontal Axis washing machine rebate. On March 22, 2001, PG&E reinstated its contribution. In order to maintain a combined program incentive level of $175, the City increased its contribution from $25 to $50 per rebate for the fiscal year 2000/2001 (the Water District contributes $50 per rebate). Therefore, the current combined rebate is $175. Between January and June, 2001 approximately 2,079 rebates have been distributed in the Plant's tributary area.

### *I-C3.2 COMMERCIAL WASHER REBATE PROGRAM*

The Water District administers a Commercial Washer Rebate Program to provide rebates of up to $350 to commercial laundromats, nursing facilities, and multi-family residential buildings with common-area laundry rooms for the purchase and installation of commercial grade H-axis washing machines. The City helps fund this rebate by reimbursing the District $125 per replaced washer for commercial installations and $75 per washer for multi-family common area laundry installations. In addition, PG&E and the City of Santa Clara reimburse the Water District $100 for customers in their service areas. Between January and June 2001, approximately 196 rebates were provided in the Plant's tributary area.

### *I-C3.3 WATER-WISE HOUSE CALLS*

In conjunction with local water retailers, the Water District performs residential water surveys called "Water-Wise House Calls" as a part of their residential conservation program. The program is available for single-family and multi-family homes. The surveys consist of inventory and measurement of flow rates for water-using fixtures, leak-detection, and the distribution of low flow devices where appropriate. Since toilet flappers (the rubber stopper located on the bottom of the toilet tank) are responsible for the majority of indoor water leaks, residential water surveys are being used as a vehicle for their replacement.

In February 2001, a sample of ULFT retrofit program participants was surveyed to determine the best method for ensuring that people maintain their flappers for leak prevention. Results of the survey show that participants overwhelmingly would check and replace flappers if reminded to do so.

### *I-C3.4 SUBMETERING PROGRAM*

The Water District continues to offer a Submetering Program for mobile homes. The program installed approximately 361 meters between January and June, 2001. The program offers rebates to mobile home customers for the installation of meters that allow end users of water to be billed directly for the volume of water they use, potentially reducing water consumption by 25%. The City contributes to this program by reimbursing the Water District up to $28 per meter.

## Next Steps

- The City anticipates continuation of our ULFT programs as well as our partnership with the Water District.

- The Water District has entered into a contract with "Conservision," a water conservation consulting firm, to implement the Water-Wise House Calls program in the next fiscal year.
- The City will increase face-to-face contact with its WET customer base. With the industrial sector, it is still expected that the successful completion of other efforts to maximize water efficiency among industrial customers (such as recycle and reuse guidelines and documenting various local case studies) will result in additional program activity.
- The City is investigating the feasibility of developing additional water conservation ordinances such as the requirement of ULFT retrofits upon the resale of homes. Over the next two years, the City will also investigate new technologies for their flow reduction potential and feasibility of implementation. These include hot water on-demand systems that provide hot water at the point of use, new toilets that use less than 1.6 gallons per flush, and water-conserving commercial spray nozzles for us in food services.

## *I-D GROUNDWATER INFILTRATION*

To reduce extraneous flows into the sanitary sewer system and ultimately through the Plant and into the South Bay, the City continues to locate and quantify sources of dry weather groundwater infiltration (GWI) into tributary area sewers and develop a system for rehabilitating the sewer system to reduce GWI.

### Findings and Accomplishments

The City inspected and videotaped previously examined sewers to better identify the extent of infiltration and the scope of rehabilitation projects. Based on this work, several projects currently underway in the City are shown on Figure 4 and described below.

### I-D1 RECONSTRUCTION OF MANHOLE ON SANTA TERESA BOULEVARD AT BAILEY AVENUE

Inspections of a manhole located on Santa Teresa Boulevard at Bailey Avenue identified that this manhole contributed an estimated 2 mgd of GWI. The manhole reconstruction is underway with completion estimated by September 2001.

### I-D2 REDMOND AVENUE PARALLEL SEWER REHABILITATION

Flow monitoring and video inspections of the 15-inch and 24-inch parallel lines on Redmond Avenue (between Camden and Cloverhill Drive) identified that these two lines could contribute up to 1.29 mgd of infiltration. The design of this rehabilitation project will begin during the summer of 2001. Construction is anticipated to follow in 2002.

## I-D3 DOWNER CANOAS 2-A MANHOLE REHABILITATION

An inspection of the manholes in the Downer Canoas area identified eight defective manholes contributing a total of approximately 0.26 mgd of GWI. These manholes have been recommended for rehabilitation. Design for this rehabilitation will begin in summer of 2001.

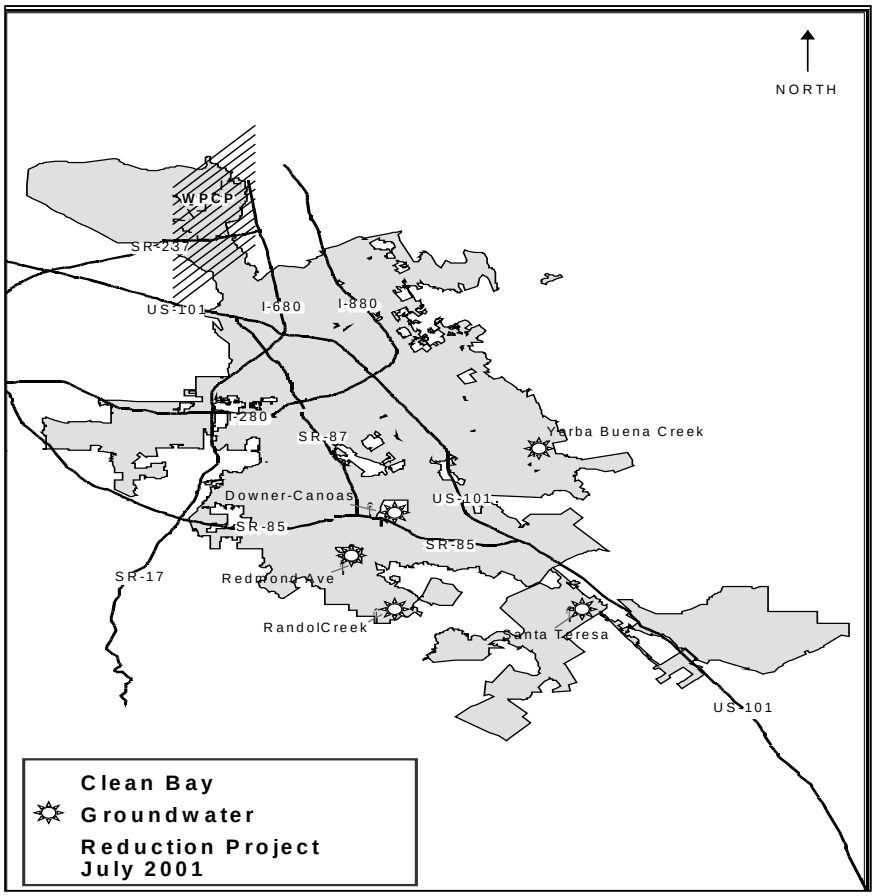
### New Projects

The City inspected 55 manholes along Yerba Buena Creek, Randol Creek, Alamitos Creek, and Blackford Avenue areas during spring of 2001. The City identified excessive infiltration in the pipelines on Yerba Buena Road and Calcaterra Drive in the Randol Creek area. A water main break, which contributed infiltration to the sewer system, was also identified within this study area, and has since been repaired.

### Next Steps

The City will further investigate and videotape new projects in upstream pipelines during the summer of 2001 to better identify the extent of infiltration and the scope of the future rehabilitation projects.

## Figure 4: Locations of Groundwater Infiltration Projects



## *I-E MARSH MITIGATION*

The City's contribution towards the purchase of the Baumberg Tract, the Moseley Tract, and Bair Island has made it possible for the City to fulfill its marsh mitigation requirement.

### I-E1 BAUMBERG TRACT

A final update for this element was included in the July 1999 *CBS Report.*

### I-E2 MARSH MITIGATION PROJECT - MOSELEY TRACT

Due to difficulties addressing joint use issues with Caltrans, the City is currently assessing salt marsh mitigation alternatives for the Moseley Tract.

### I-E3 BAIR ISLAND

A final update for this element was included in the July 1999 *CBS Report.*

**This page was intentionally left blank.**

# II POLLUTANT REDUCTION

To reduce pollutants to the South Bay, the City uses a multi-pronged, continuous improvement approach involving infrastructure optimization, pretreatment programs, partnerships with industry, and special studies. The goal is to ensure that programs are efficient, cost-effective, and based on sound science. Regional cooperative programs, including the Santa Clara Valley Urban Runoff Pollution Prevention Program (Urban Runoff Program) and the Santa Clara Basin Watershed Management Initiative (WMI), are also key elements in achieving this goal.

## *II-A SJ/SC WATER POLLUTION CONTROL PLANT*

The Plant, for the fourth consecutive year, maintained permitted industrial copper and nickel loading below the 1997 baseline. The Plant also returned to compliance in April after exceeding zinc mass limits during January, February and March. As reported in the January 2001 *CBS Report*, the annual cumulative loading for total zinc, calculated monthly, was found to be above the Plant's NPDES permit limit of 22,748 pounds/year between September and December 2001. Table 3 summarizes these loadings.

### Table 3: Cumulative Total Loading

| Month | Zinc Loading (lb/yr) | Effluent Concentration | |
|---|---|---|---|
| | | Maximum (ppb) | Average (ppb) |
| SEP 2000 | 23,277 | 102 | 68 |
| OCT 2000 | 23,849 | 78 | 66 |
| NOV 2000 | 23,993 | 75 | 61 |
| DEC 2000 | 24,295 | 91 | 66 |
| JAN 2001 | 24,362 | 86 | 68 |
| FEB 2001 | 23,793 | 75 | 63 |
| MAR 2001 | 22,781 | 68 | 55 |
| APR 2001 | 22,358 | 76 | 51 |
| MAY 2001 | 22,020 | NA | 61 |

Loading Limit: 22,748 lb/yr

Maximum Concentration Limit: 86 ppb

Studies of zinc concentrations throughout the plant's processes documented that the zinc loading was not a Plant operations phenomena. It appears that the mass loading exceedances encountered since last fall occurred as a result the Santa Clara Valley Water District's (Water District's) increase in zinc orthophosphate to better control corrosion. Since this discovery, the City has been working with the Water District to fulfill the conflicting regulatory mandates within the Safe Drinking Water and Clean Water Acts. The Water District has been conducting bench scale tests of alternative corrosion control additives. Their goal is to reduce the use of zinc to the maximum extent practical.

The City anticipates future zinc mass limitation exceedances until --

- The Water District's bench scale studies find a successful corrosion control alternative;
- This performance-derived limitation is modified appropriately to reflect current performance conditions; or
- This average reflects a mass credit for the Water District corrosion control practices to meet their Safe Drinking Water Act requirements.

The cumulative total loading decreased to within permit limits beginning in April 2001.

## II-A1 OPERATIONS AND MAINTENANCE MANUAL

A final update was included in the July 2000 *CBS Report*

## II-A2 HEADWORKS LOADING ANALYSIS WORKPLAN

A final update was included in the July 2000 *CBS Report*

## II-A3 SELECTED ORGANICS SOURCE INVESTIGATION

A final update was included in the July 2000 *CBS Report*

## II-A4 TRUNKLINE AND UPSTREAM MONITORING

In October 1995, the City developed and implemented a Trunkline and Upstream Monitoring Program to focus on tracing the source of pollutants entering upstream from the Plant. The long-term intent of the program is to:

- Identify the sources of pollutants entering the Plant to specific trunklines (or cities) of origin.
- Attempt to identify whether pollutants enter the Plant in a consistent manner or in slug loads.
- Trace the pollutants by continually moving upstream to their sources.

### Monitoring Sites

Wastewater flowing into the Plant was isolated into three trunklines and two upstream sites approximately representing the wastewater discharging from San José, North San José, Milpitas, and Santa Clara. The current monitoring site areas (see Appendix B Figure 1 for a map of these sites) represent wastewater flow discharging to the Plant from the following:

- T-1 for the City of Milpitas.
- T-2 for San José, the southeast quadrant of Santa Clara, and the West Valley Sanitation District.
- T-3 for North San José.
- U-SC1 for Santa Clara between the Guadalupé River and San Tomas Aquino Creek north of Central Expressway.
- U-SC2 for Santa Clara west of San Tomas Aquino Creek and Cupertino.

## Findings and Accomplishments

After repeated monitoring, pollutant levels at upstream sites U-SC3 and U-M2 were near expected values and therefore monitoring was discontinued at these sites.

Appendix B Figures 2 through 5 show the average daily mass loading for the five trunklines entering the Plant for the current and previous ten reporting periods.

- Total copper loading at the five trunklines decreased slightly from the previous period. Individually, trunkline T-2 showed a significant decrease in total copper and U-SC2 showed an increase. An increase in total copper at U-SC2 was due to a single extreme value that does not fit the general trend of the data and may be an error.
- Dissolved copper loading at the trunklines increased slightly from the previous period, with the majority of increased loading occurring at T-2.
- Total nickel loading has decreased slightly from the previous period.
- Dissolved nickel loading has decreased slightly from the previous period, and shows a similar trend as the total nickel.
- Combined loading for total copper, and total and dissolved nickel, has decreased from the previous reporting period. Loading for dissolved copper increased slightly from the previous period.

### Pilot Study

A pilot study has been monitoring, in parallel with the existing program, the influent through T-1, T-2, and T-4 (a combination of U-SC1 and U-SC2) since February 2001. Samples were collected four days per week at each of the monitoring sites, with separate samples being taken each day to represent daytime and nighttime composites. The intent of the pilot is to determine if significant

variations in concentration occur between day and night and to analyze the samples for a wider range of metals.

Each sample is analyzed for eighteen metals: antimony, arsenic, barium, beryllium, boron, cadmium, chromium, cobalt, copper, lead, manganese, molybdenum, nickel, selenium, silver, thallium, vanadium, and zinc. Preliminary results show a variation of barium, copper, and zinc concentration from day to night. The concentration of the other metals did not vary from day to night. The concentration of barium and boron was higher than expected (0.1 and 0.5 ppm respectively).

The preliminary data review of the pilot study has been promising enough to continue monitoring and evaluating the data of the three trunklines using this method.

#### Next Steps

The City is reviewing the Trunkline Monitoring Program to determine necessary program and data collection improvements to better serve its goals to identify sources of pollution.

### II-A5 PLANT STUDIES

A final update was included in the January 2000 *CBS Report.*

## *II-B THE PRETREATMENT PROGRAM*

The City's Pretreatment Program regulates industrial dischargers and other critical users and encourages pollutant and flow reduction. The City recently reorganized its pretreatment inspection program to streamline the process, increase efficiency, and increase consistency. The program also is reviewing and rewriting its procedures to assist in meeting these goals.

### II-B1 INDUSTRIAL WASTEWATER DISCHARGE MUNICIPAL CODE

The City is evaluating its current fee structure for Industrial Wastewater Discharge Permits. If these fees need to be changed, the City will update the municipal code to reflect these fee changes. The analysis is expected to be complete by January 2002.

### II-B2 DEVELOPMENT APPLICATION REVIEW

The Development Application Review Group consists of representatives from all of the Environmental Services Department's (ESD's) programs and services.

While the City's Department of Planning Building and Code Enforcement Planning Division is responsible for administering the review and approval of development in San José, the group reviews projects during the planning process to identify and address issues that might affect environmental programs. The purpose of the review is to direct the attention of the developers to discharge and service requirements that should be addressed during site design. Wastewater discharge reduction, pollutant load minimization, onsite reuse, and the use of recycled water are some of the considerations included while evaluating new development projects.

## Findings and Accomplishments

For this reporting period, the group reviewed and responded to the following:

- 3 Administrative Draft Environmental Impact Reports (EIRs),
- 55 development applications having the potential to utilize wastewater pollutant and/or flow reduction measures, and
- 70 development applications identified for potential use of recycled water.

The group began developing a strategy to assess implementation of ESD recommendations. After a training session tailored for the group by a City Senior Planner, it was clear that many of the recommendations were not necessarily checked during inspections performed by other City departments. Checking for the implementation of measures may entail:

- Linking the group's comments with other service-specific data to "close the loop" on a development from the design phase to commencement of service. For example, SBWR customer information can be useful in identifying the follow through for projects required to connect.
- Linking comments and conditions with inspection data from other departments. Inspections performed by other City departments may reveal implementation of measures.
- Performing additional on-site review of completed development projects.

## Next Steps

The group will continue to develop a workplan to identify ways of assessing the implementation of recommended conditions and measures related to water efficiency and pollutant reduction. Over the next year, the group will modify the comment-and-review process to take advantage of the City's transition to a web-based development review process and tracking system. Once the Development Application Review process is fully executed in the City, the group will seek to expand the scope of work to include other tributary cities.

## II-B3 INDUSTRIAL DISCHARGER RESEARCH STUDIES

Final report included in July 2000 *CBS Report*.

## II-B4 INDUSTRIAL POLLUTANT LOADING STATUS

Tables 4 through 6 give the industrial flows for 1997 (baseline) through May 2001 and the copper and nickel loading to the Plant from permitted industrial dischargers, respectively. Figures 5 through 8 also illustrate the trends in industrial flow and copper and nickel loading.

### Findings and Accomplishments

Permitted industrial flow and copper and nickel loading continue to be below 1997 baseline levels. Manufacturing has slowed during the past reporting period. Some of the larger manufacturers have reduced the number of production hours and have had periodic closures due to the global economy. The industrial flow did not decrease as much as the metals loading because we are now reporting several permitted non-industrial facilities whose discharges were greater than 100,000 gpd (e.g. hospitals, jails, etc.) and were required to complete the Flow Audit Study.

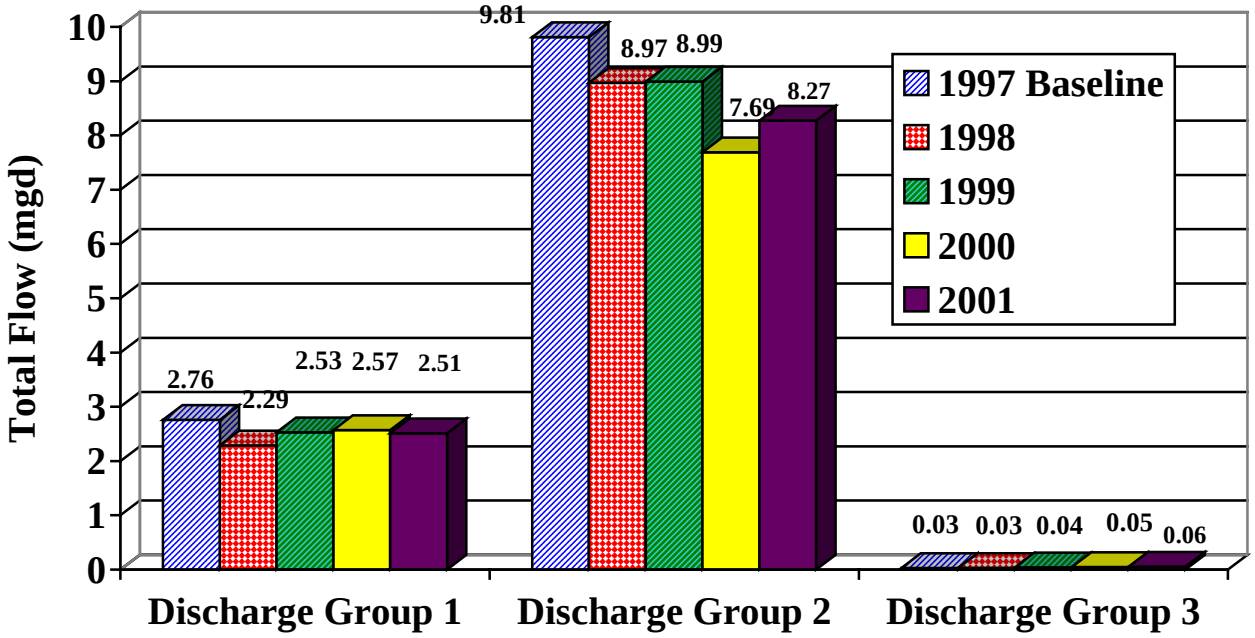
### Next Steps

Staff will be reviewing and updating the current Mass Audit Study Protocol and Reasonable Control Measures Plan which companies use to perform self-audits to identify copper, nickel and flow reduction measures. The City will continue to monitor pollutant loading from IUs to maintain levels below the 1997 baseline. (For details of flow reduction measures, refer to Section I-B of this report.)

## Table 4: Process Flow from Different Classes of Permitted Dischargers

| Discharger | Permitted Industrial Flow, mgd | | | | |
|---|---|---|---|---|---|
| | 1997 | 1998 | 1999 | 2000 | 2001[1] |
| Group 1 | 2.76 | 2.29 | 2.53 | 2.57 | 2.51 |
| Group 2 | 9.81 | 8.97 | 8.99 | 7.69 | 8.27 |
| Group 3 | 0.03 | 0.03 | 0.04 | 0.05 | 0.06 |
| **Total** | **12.60** | **11.29** | **11.56** | **10.31** | **10.84** |

## Figure 5: Permitted Dischargers Flow

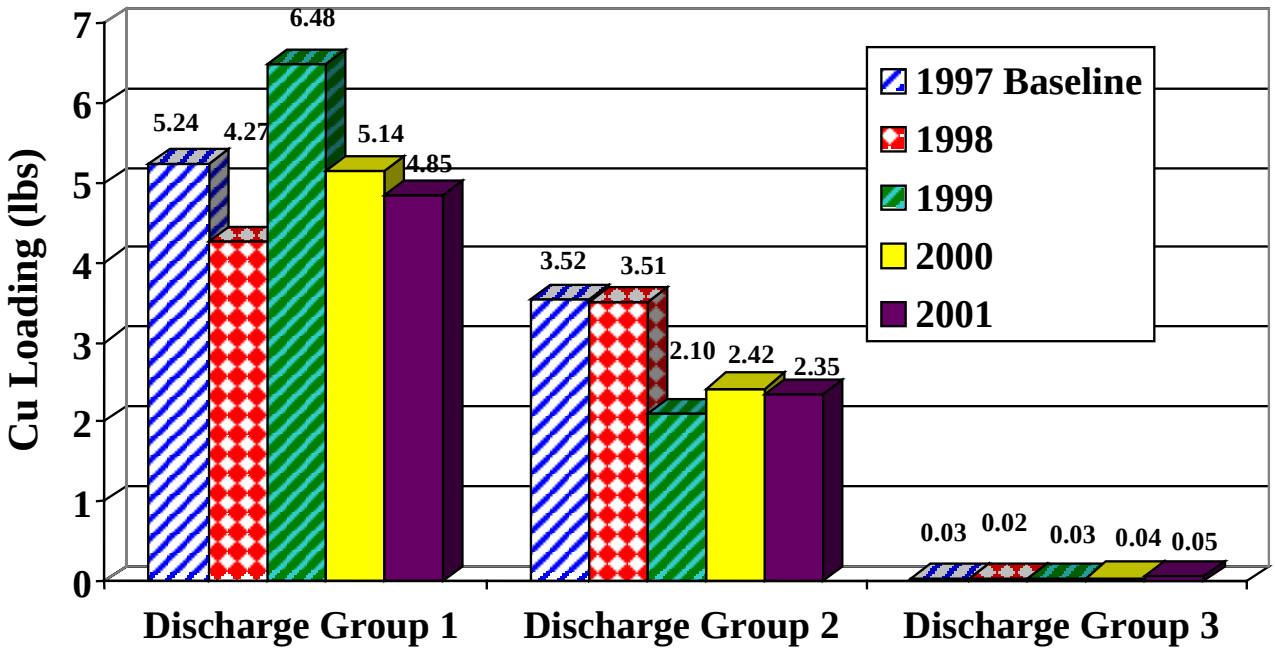



[1] All 2001 numbers are from April 1, 2000 to May 31, 2001. Also includes newly permitted non-industrial facilities

## Table 5: Copper Loading from Different Classes of Dischargers

| Discharger | Permitted Industrial Copper, lbs/day | | | | |
|---|---|---|---|---|---|
| | 1997 | 1998 | 1999 | 2000 | 2001 |
| Group 1 | 5.24 | 4.27 | 6.48 | 5.14 | 4.85 |
| Group 2 | 3.52 | 3.51 | 2.10 | 2.42 | 2.35 |
| Group 3 | 0.03 | 0.02 | 0.03 | 0.02 | 0.05 |
| **Total** | **8.79** | **7.80** | **8.61** | **7.58** | **7.25** |

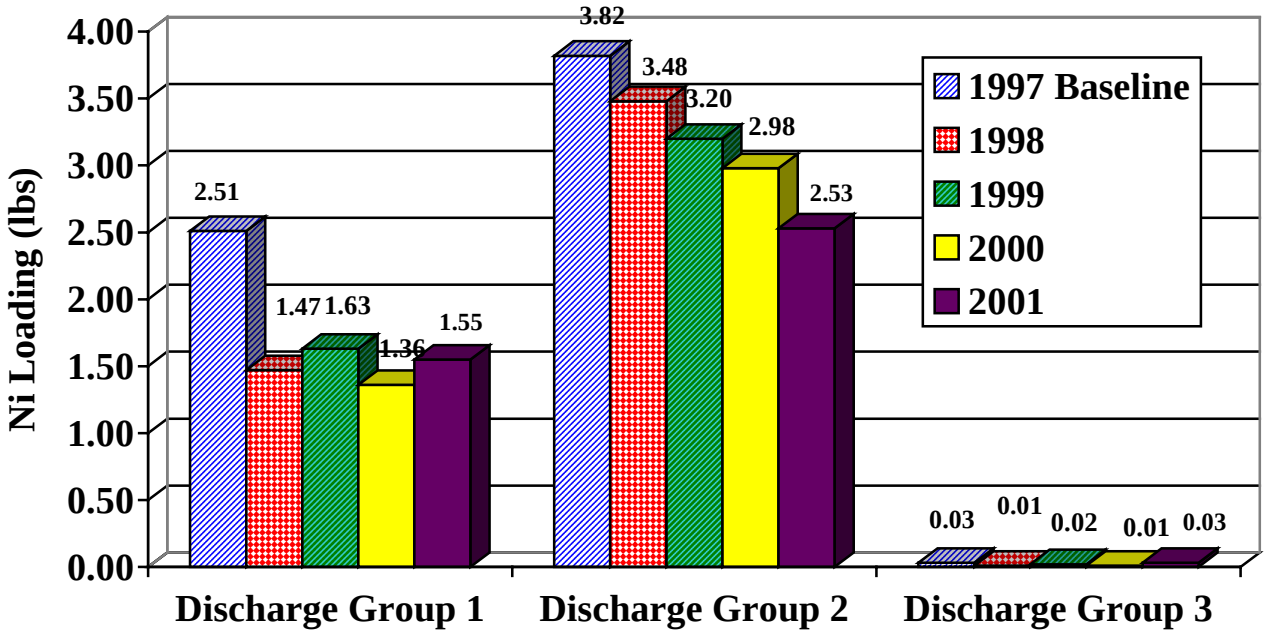
## Figure 6: Daily Total Industrial Copper Loading



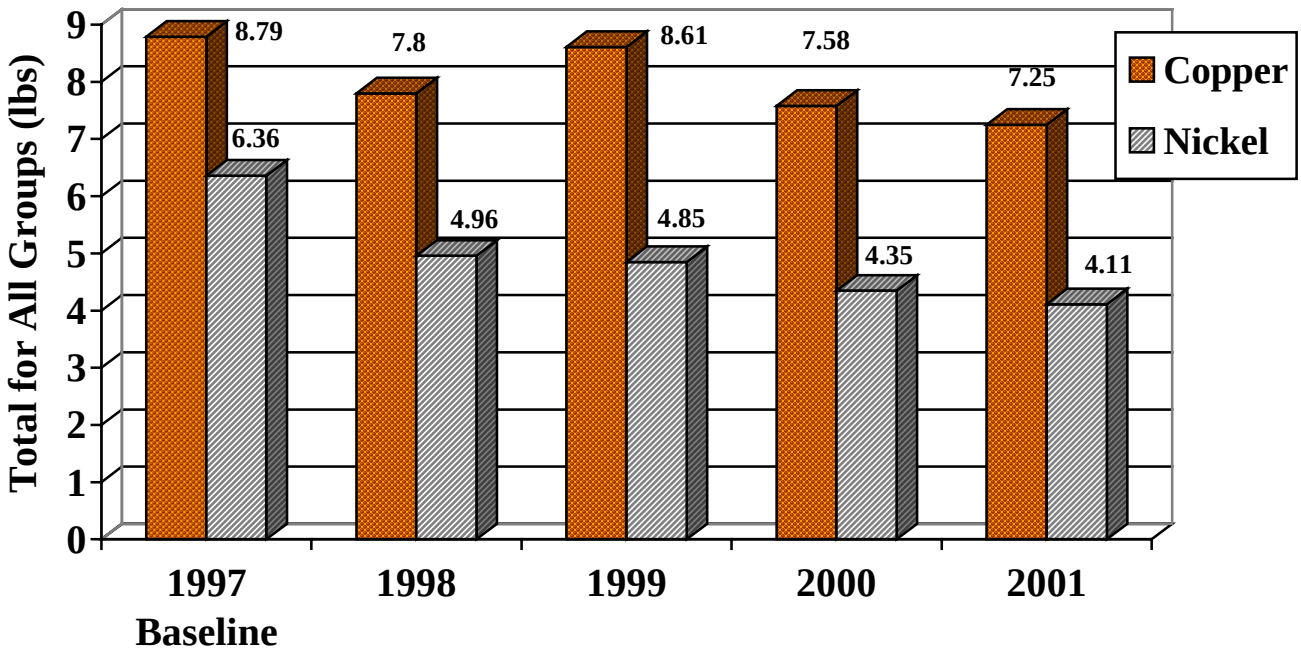
## Table 6: Nickel Loading from Different Classes of Industrial Dischargers

| Discharger | Permitted Industrial Nickel, lbs/day | | | | |
|---|---|---|---|---|---|
| | 1997 | 1998 | 1999 | 2000 | 2001 |
| Group 1 | 2.51 | 1.47 | 1.63 | 1.36 | 1.55 |
| Group 2 | 3.82 | 3.48 | 3.20 | 2.98 | 2.53 |
| Group 3 | 0.03 | 0.01 | 0.02 | 0.01 | 0.03 |
| **Total** | **6.36** | **4.96** | **4.85** | **4.35** | **4.11** |

## Figure 7: Daily Total Industrial Nickel Loading



## Figure 8: Daily Industrial Total Copper and Nickel Loading



# III RESEARCH AND SPECIAL STUDIES

The City of San José (the City) regularly works with other cities and agencies to perform special studies to better understand the impact of the effluent from the San José/Santa Clara Water Pollution Control Plant (the Plant) on the San Francisco South Bay (South Bay). Recent studies include a Special Effluent Study for Certain Organic Pollutants, a Mercury Total Maximum Daily Load (TMDL) Participation Plan, Trace Level Monitoring in the South Bay, Calculation of TMDL for Copper and Nickel in South San Francisco Bay, and a Saltwater Conversion Study.

In addition to South Bay special studies, the City also studies the environmental benefits and effects of special projects such as the Stream Flow Augmentation Pilot (Augmentation Pilot).

## *III-A SPECIAL EFFLUENT STUDY FOR CERTAIN ORGANIC POLLUTANTS*

The Special Effluent Study For Certain Organic Pollutants was completed in March 2001 and was published by the San Francisco Estuary Institute as the *South Bay/Fairfield-Suisun Trace Organic Effluent Study*. The technical report (included in Appendix C) is available for downloading at the San Francisco Estuary Institute's website at http://www.sfei.org.

The report's primary objectives were to --

- Determine concentrations of organic compounds in Public Owned Treatment Works (POTW) effluents, and
- Assess sources of variation related to the collection and measurement of organics using ultra-sensitive techniques.

In general, the study found that far superior estimates for method detection limits of trace organic compounds could be achieved when using advanced ultra-trace sampling and analysis techniques. These techniques were found to reduce the Method Detection Limits by as much as two orders of magnitude. These reduced limits are better than those available from commercial laboratories. Since the detection of many regulated organic compounds is limited by available technology, developing improved sampling techniques will provide a better understanding of these contaminants and their relative loading impacts to the Bay. The report emphasized the importance of internal and external checks as well as historical and professional scientific judgement as a key component in assuring quality when measuring pollutants at these minute levels.

## *III-B MERCURY TMDL PARTICIPATION PLAN*

In response to the listing of the entire San Francisco Bay Estuary as being impaired by mercury, state and federal regulators are developing a TMDL with waste load

allocations (WLAs) for individual point sources. Until the development of TMDL and WLAs, the San Francisco Bay Regional Water Quality Control Board (Regional Board) is requiring that mercury loading into the South Bay from individual point sources be held at current levels.

## Findings and Accomplishments

Historically, most effluent mercury samples at municipal and industrial dischargers in the Bay Area Region were reported as below detection limit, which reduced the accuracy of mercury load estimates from these sources. In January 2000 municipal and industrial dischargers began using ultra-clean sampling methods for mercury, which resulted in a much higher percentage of numerical results, with individual numerical results typically well below the older detection limits. The City has been using these ultra-clean methods for mercury analysis since March 1996.

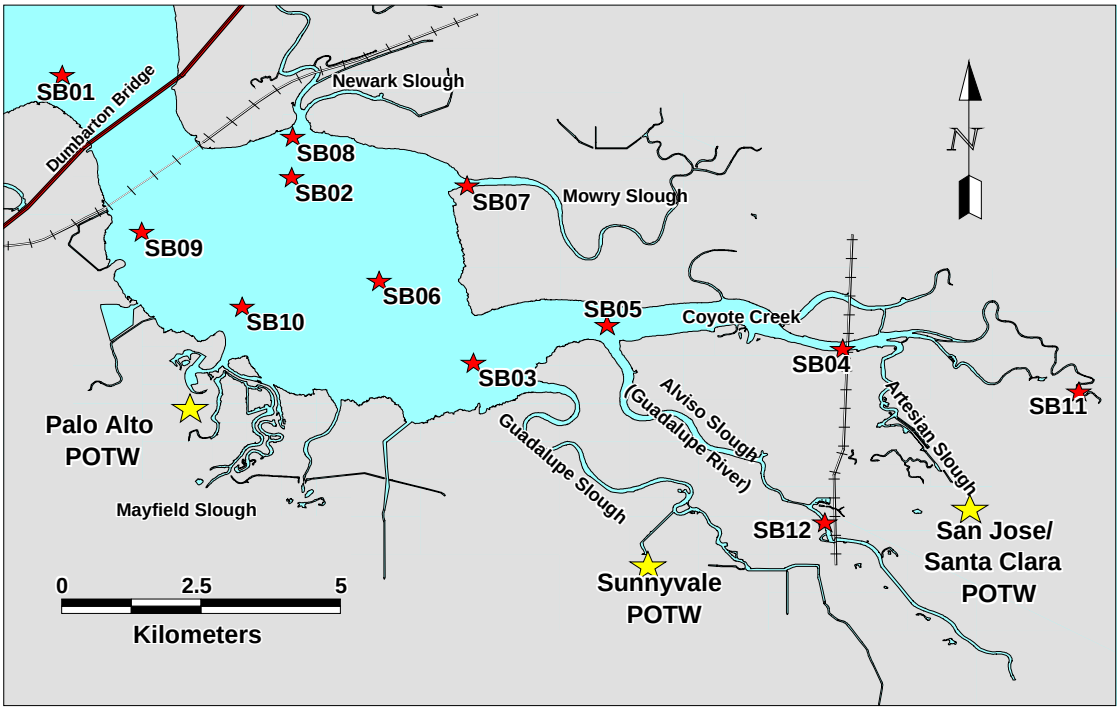
A number of National Pollutant Discharge Elimination System (NPDES) permits for large dischargers are due for renewal in 2001. In preparation for these renewals, the Regional Board staff recently performed a basic statistical analysis of pooled ultra-clean mercury data from selected municipal dischargers. The Regional Board used this analysis to evaluate the feasibility of developing region-wide interim performance-based mercury effluent limits, based on ultra-clean data that better reflect actual POTW performance. Use of basic statistical analyses was justified since municipal discharges are estimated to account for only three percent of the current mercury mass loading to the Bay. On June 7, 2001 the Regional Board released its methodology for developing statistically-based, mercury performance limits delineated by type of treatment. The proposed region-wide mercury limit for advanced secondary treatment is 23 ppb, taken as a monthly average. However the limit is still under debate.

For this reporting period, Plant effluent monitoring for total mercury found an average of 3 ppt.

## Next Steps

The City will continue its participation on the Regional Board's Mercury Council, representing both the City and the Bay Area Clean Water Agency's Laboratory Committee. The City is also represented on the Mercury Council through the Santa Clara Valley Urban Runoff Pollution Prevention Program (Urban Runoff Program). In addition to this Bay-wide effort, City staff will continue participation in the Watershed Management Initiative's (WMI's) Watershed Assessment Subgroup, which serves as the stakeholder forum for the Guadalupé Watershed Mercury TMDL effort.

## Figure 9: Sampling Locations for Trace Level Monitoring




## *III-C TRACE LEVEL MONITORING IN SOUTH SAN FRANCISCO BAY*

The City continues to monitor water quality parameters in the South Bay monthly. The 12 sampling sites represent deep channel, mid-channel, shallow mudflats, and areas of significant stream influence. Figure 9 shows sampling locations for this project. The study provides fundamental information describing the spatial and temporal trends in water quality to enable a better understanding of beneficial use impairments in the South Bay. This monitoring information also represents the basis for the triggers in the *Copper and Nickel Action Plans* and their ancillary pollution control activities.

### Findings and Accomplishments

The *Copper and Nickel Action Plans* resulting from the South Bay Copper/Nickel TMDL process promote continued monthly monitoring of these ambient water stations, using dissolved metal concentration as an indicator for pollution increases in the South Bay. Revised copies of the *Copper and Nickel Action Plans* have been included in this report in Appendices D and E.

Monitoring thus far found that ambient total metal concentrations in the extreme South Bay decreased on a northward gradient. Ambient dry weather dissolved copper and nickel levels remained well below the Action Plan trigger levels of 4.0 and 6.0 ppb, respectively. Total mercury levels were highest in conjunction with suspended sediment, particularly near Calaveras Point in the southern end of the South Bay. The mercury monitoring results may be useful in developing a mercury TMDL for the South Bay and may provide a technical connection to the Guadalupé Watershed TMDL effort.

In February 2001, the City published a fact sheet, *Spatial and Temporal Trace Level Monitoring in South San Francisco Bay* (see Appendix F) discussing the monitoring.

### Next Steps

This water quality monitoring program will continue throughout 2001.

## *III-D CALCULATION OF TMDL FOR COPPER AND NICKEL IN SOUTH SAN FRANCISCO BAY*

Since the October 2000 NDPES permit amendment, the WMI's South Bay Monitoring and Modeling (BMM) Subgroup has prepared a detailed workplan to develop site-specific objectives (SSO) for both copper and nickel and the requisite *Basin Plan* Amendment language. The basic foundation of the workplan is to utilize two subgroups of the WMI to facilitate discussions between Regional Board staff, POTWs, and other interested parties to assist preparation of the SSOs and various regulatory documents necessary to comply with applicable state and federal regulations. Current efforts are focused on the regulatory analysis and draft *Basin Plan* staff report, and development of the specific *Basin Plan* amendment language.

### Findings and Accomplishments

The Regional Board approved the copper and nickel SSO workplan and tentative implementation timeline on January 9, 2001. In April 2001, the combined BMM and Regulatory Subgroup reached a consensus on the copper and nickel SSOs. The proposed SSO are 6.9 ppb for the dissolved copper SSO, 12.0 ppb for the dissolved nickel SSO. They also included the most technically defensible values for chemical translators.

In February 2001, the City published two fact sheets, *Development of a Site-Specific Criterion for Copper in South San Francisco Bay and Nickel Acute-to-Chronic Ratio Study in South San Francisco Bay*.

In May 2001, the City also published a fact sheet entitled Calculation of Total Maximum Daily Loads for Copper and Nickel in South San Francisco Bay. All fact sheets are included in Appendix F.

The Source Characterization Report was finalized August 2000 and is included in Appendix G.

### Next Steps

The primary goal is to draft the staff report and language for the *Basin Plan* amendment. Once the language is drafted, the first step of the approval process is Technical Peer Review by the State and United States Environmental Protection agency (U.S. EPA) followed by formal public notices, Regional Board hearings, and public reviews and comment periods. The tentative timeframe for the first Regional Board hearing is Fall 2001. Upon approval by the Regional Board, the State Water Resources Control Board, the California Office of Administrative Law, and U.S. EPA will review the drafts. After receiving and addressing all comments, the language will be finalized.

## *III-E SALTWATER MARSH STUDY*

This study is a continuation of the long-term monitoring program designed to detect changes in habitat types within the estuarine marshes of South Bay. The marsh studies are progressing as scheduled. The complete *Marsh Plant Association Report for 2000* is available on Environmental Services Department's (ESD's) website (http://www.ci.san-jose.ca.us/esd ) under "Publications and Research".

This is the second year that plant association mapping was done using digital orthos images created from rectified color infrared aerial photography. This technique allows for the highest accuracy of data, minimizes mapping error, and facilitates comparative data analysis from year to year. To provide this same level of accuracy for subsequent years and reduce GIS-associated costs, the City is also digitizing the 1989 baseline vegetation maps.

A comparison of dominant species categories acreage for each habitat type from the 1989 baseline year and 1999 and 2000 is presented in Table 7. The results of the 2000 vegetative assessment indicate very little change in marsh habitat vegetation between 1999 and 2000 in the main study area (1% and 15%, respectively, with slight increase in salt and freshwater marsh habitat and small decrease in brackish marsh habitat.

The Reference Area[1] in Alviso Slough experienced more significant fluctuations during this period, with significant increases in brackish and freshwater habitat and a decrease in salt marsh habitat. Each acreage represents dominant vegetative

[1] The Reference Area, which includes approximately 225 acres and consists of study segments 27-30, is included for documenting vegetation changes in a watershed not affected by the discharge of treated wastewater. Plant species within Alviso Slough have a general distribution similar to the Main Study Area in terms of progression from freshwater to brackish and salt marsh species extending from upstream to the confluence of Coyote Creek.

## Table 7: Comparison of Marsh Acreage from 1989 Baseline

| | MAIN STUDY AREA | | | REFERENCE AREA | | |
|---|---|---|---|---|---|---|
| **Dominant Species Category** | **1989** | **1999*** | **2000*** | **1989** | **1999*** | **2000*** |
| **Salt Marsh** | **768** | **771**<br>*0.4%* | **776**<br>*1%* | **77** | **59**<br>*-23%* | **49**<br>*-36%* |
| **Brackish Marsh** | **564** | **751**<br>*33%* | **715**<br>*27%* | **95** | **149**<br>*57%* | **168**<br>*77%* |
| **Freshwater Marsh** | **NA** | **13**<br>*NA* | **15**<br>*NA* | **NA** | **16**<br>*NA* | **32**<br>*NA* |
| **Total**<br>*% change from 1989* | **1332** | **1535**<br>*15%* | **1506**<br>*13%* | **172** | **224**<br>*30%* | **249**<br>*45%* |

* The percentages shown in italics represent the change from 1989 to 1999 and 1989 to 2000, respectively.

species categories for each habitat type. The Reference Area in Alviso Slough includes study segments 27-30. Study segments 24-26 in Artesian Slough were not mapped in 1989, and are therefore not included in the percent change comparison. Freshwater marsh habitat was mapped for the first time in 1996.

The City has completed the first year of a two-year study of the water salinities and tidal elevations in Coyote Creek and Alviso Slough. Preliminary findings from the three continuous monitoring stations included:

- Salinities decrease during falling and low tides (diluted by local sources of freshwater) and increase on rising and high tides (when local sources have a reduced dilution effect);
- Physical conditions at the railroad bridge (downstream of the Plant outfall into Coyote Creek) and the Alviso Slough Reference Reach showed similar characteristics, both in average salinities (approximately 4 parts per thousand (ppt)), and daily and seasonal salinity variations; and
- The channel marker station (at the mouth of Coyote Creek) showed significantly higher salinities than the other two stations, indicating that surface waters were well mixed and heavily influenced by South Bay water at Calaveras Point.

The City also sampled and analyzed pore water salinity in the vegetative root zones throughout the study and reference areas. Preliminary results from the three randomly selected locations within each of the 28 marsh segments (84 total) verified that:

- Salt marsh habitats had more saline pore water and higher mineral content than brackish or freshwater marsh habitats;
- Plant species mapped as indicators of salt marsh species had the highest mean interstitial salinities (35 ppt), and those mapped as indicators of freshwater marsh habitats were lowest (4 ppt); and
- Brackish marsh plant species habitats had mean interstitial salinities between salt and freshwater (20 – 35 ppt) and plants in this salinity zone usually have a large range of salt tolerances.

### Next Steps

The analysis of this data and correlative analysis of the field study findings (with all of the South Bay freshwater input variables) will aid in determining the relative influences of environmental and anthropogenic factors affecting changes in marsh type. A specific work plan will be developed once the first two years of field monitoring data collection have been analyzed and discussed with stakeholders.

## *III-F STREAM FLOW AUGEMENTATION PILOT PROJECT*

The purpose of the Augmentation Pilot is to augment flows from streams with low summer flows with recycled water. Stakeholders group consisting of local, state and federal resource agencies and environmental advocacy groups worked with the City to design and develop this Augmentation Pilot.

In the Fall of 2000, the Pilot completed the California Environmental Quality Act (CEQA) compliance process and obtained a NPDES permit amendment from the Regional Board to release recycled water into Coyote Creek at Singleton Road, just south of Capitol Expressway.

**Findings & Accomplishments**

In January 2001, several conditions required for implementing the Augmentation Pilot began to change. First, this year's energy crisis caused the already high cost estimates for cooling the recycled water to double and triple adding millions of dollars to the operating costs of the Augmentation Pilot. This crisis also brought attention to design issues such as assuring the reliability of power during blackouts to maintain continuous flow of cooled recycled water. In the current design, backup water supplies were included, but providing a backup power supply to cool the water was not. Flow interruptions could potentially have detrimental effects on the fish and wildlife in the stream, thus counteracting the aquatic habitat benefits. These issues still need to be addressed.

Another set back was the Water District's decision to withhold of support for the Augmentation Pilot as designed until further studies are complete. The Water District wants to ensure that the project design will protect the groundwater basin.

The City and Water District are working together to evaluate the available options to move forward with the feasible elements of a stream flow augmentation project. The two agencies are developing and implementing a plan to establish a baseline of existing water quality conditions (both surface and groundwater) at potential sites where a stream flow augmentation project may be located. The City and Water District jointly applied for and received grant funding from the Metropolitan Water District in Los Angeles. This grant will support investigation of potential impacts to groundwater and potential treatment requirements of the recycled water to protect the groundwater.

The baseline monitoring program in Coyote Creek completed its second dry season sampling effort in 2000. This second season included monitoring water quality, benthic macroinvertebrates (BMI) and fish habitats, and sampling fisheries. The second season also expanded to include two tributaries for water quality, one tributary and upstream stations for BMI and fisheries. San Jose State University (SJSU) joined the monitoring team in 2000, collecting data on algae and vegetation conditions in Coyote Creek and two tributaries. This baseline will assist in evaluating the impact recycled water may have on the stream water quality and aquatic habitat. This baseline data and subsequent monitoring of Coyote Creek will also be used for other ongoing related projects in the Coyote Creek Watershed.

Since the BMI data already collected seems adequate to provide a baseline on the BMI community, the BMI monitoring is not scheduled to continue in 2001. The fisheries work also cannot continue in 2001 due to restrictions on sampling in streams containing Steelhead, which are a protected species. Issues concerning endangered species will have to be resolved prior to implementation of the augmentation pilot.

### Next Steps

- Continue working with the Water District to develop and implement a Surface/Groundwater Interface Study.
- Conduct a feasibility study over the next two years on potential stream flow augmentation projects.
- Continue to collect surface water quality data monthly from existing stations as well as some new stations further upstream near Metcalf Road.
- Continue to support SJSU algae, vegetation and nutrients monitoring.

## *III-G WETLANDS CREATION PILOT PROJECT*

A wetlands creation pilot project using recycled water is one potential environmental enhancement projects being analyzed in the *Revised South Bay Action Plan*.

### Findings and Accomplishments

The City recently prepared an assessment of flow reduction programs included in the 1997 Revised South Bay Action Plan. The report described a small-scale and a large-scale wetlands creation project.

### Next Steps

Recommended next steps for wetlands creation include:

- Perform background studies of Plant land and adjacent lands, including topographical surveys and hydraulic modeling of Coyote Creel and the Plant's outfall,
- Perform site-specific studies to conform the restoration potential of one of the Plant's sludge ponds (A18) and the sludge drying beds for conversion to riparian habitat,
- Explore regulatory obstacles and feasibility of receiving regulatory credit for restoring or creating wetlands,
- Develop an environmental strategy for the Plant buffer lands that includes conceptual project design alternatives and risk and cost assessments,
- Involve key stakeholders to solicit input and identify potential cost-sharing sources.

## *III-H AVIAN BOTULISM*

The creeks, sloughs, and rivers feeding the South Bay serve as habitat for many species of egrets, herons, ducks and seagulls. Environmental factors that foster the spread of the botulism bacteria are: shallow warm water, fluctuating water levels, high ambient temperatures, presence of vertebrate and invertebrate carcasses, stagnant water, and rotting vegetation.

Prompt collection and treatment of ill birds in conjunction with collection and disposal of deceased animals in the surveyed area enable the detection and control of larger disease outbreaks.

The San Francisco Bay Bird Observatory (Observatory) monitors Artesian Slough, Coyote Creek, and Alviso Slough from June through November each year for the presence of avian botulism and other avian diseases. The observatory conducts this special monitoring program under contract to the City. This study is part of a long-term monitoring program begun in 1982.

### Findings and Accomplishments

In the third week of June 2001, the Plant discovered an outbreak of avian botulism in several sludge settling lagoons. Staff from the Observatory confirmed that it was

botulism. City staff then collected sick and dead animals daily, turning them over to the Santa Clara Humane Society. As of the second week of July, the disease had not spread to neighboring ponds or waterways.

In June 2001, the Observatory trained volunteers to perform future surveys and collections. Quick response by these well-trained volunteers is key to the continued success of this program. The Observatory also conducts a wildlife survey of the Artesian Slough, lower Coyote Creek, Alviso Slough, and bordering marshes. Annual reports for both studies will be finalized in February 2002.

### Next Steps

The City will continue to support the Avian Botulism Program throughout 2001.

## *III-I LOCAL EFFECTS MONITORING*

A final update was included in the July 1999 *CBS Report.*

## *III-J BIOASSESSMENT OF SOUTH BAY*

The purpose of conducting bioassessment studies in the lower South Bay is to cooperatively develop, with academic and regulatory communities, bioassessment techniques that could lead to site-specific environmental indicators for the South Bay.

The City had previously discussed bioassessment alternatives with Regional Board staff and local scientific experts from the United States Geological Survey, San Francisco State University, and the Regional Monitoring Program. On November 8, 2000 the Executive Officer of the Regional Board approved the City's bioassessment study, and required implementation pursuant to the schedule contained therein.

### Findings and Accomplishments

Since January 2001, the City has worked with marine scientists from San Francisco State University's Romberg Tiburon Center for Environmental Studies to develop contract language to implement the City approved bioassessment program. Council approved the contract in April 2001. The proposed work will be conducted over four years with an anticipated start date of late Summer 2001, and at an estimated cost of $506,000.

### Next Steps

The City will finalize the contracts will all parties before implementing the bioassessment program.

# IV REGIONAL COOPERATIVE EFFORTS

The City of San José (the City) is involved in a number of regional cooperative efforts including the Santa Clara Valley Urban Runoff Pollution Prevention Program (the Urban Runoff Program), the Santa Clara Basin Watershed Management Initiative (WMI), the Watershed Grant Program and the Regional Monitoring Plan. The primary goal of these efforts is to maximize efficiency and effectiveness by prioritizing issues and solutions and involving key stakeholders on a regional basis.

## *IV-A SANTA CLARA VALLEY URBAN RUNOFF POLLUTION PREVENTION PROGRAM*

The work of the City's Urban Runoff Program is closely coordinated with the countywide efforts conducted by the Urban Runoff Program as well as with the work of the WMI.

### Findings and Accomplishments

In February 2001, the San Francisco Regional Water Quality Control Board (the Regional Board) adopted the 2000-2005 Stormwater NPDES Permit for the Urban Runoff Program and each co-permittee, including the City. The Urban Runoff Program plans to integrate its efforts with the WMI to meet the permit's performance standards. This includes integration of watershed management activities, production of assessment reports, planning tools to implement watershed actions and watershed-based regulatory strategies.

The Urban Runoff Program also plans to coordinate with the WMI on its outreach program, called the Watershed Education & Outreach Campaign. A draft logo for the campaign has been completed.

### Next Steps

Currently, the Urban Runoff Program and its permittees are negotiating with the Regional Board on the tentative order revising the provisions for new development and redevelopment. The new development and redevelopment language will be discussed in a series of stakeholder forums. The current schedule is to complete the stakeholder discussions in the time to take the proposed language to the Regional Board for adoption in October 2001.

## IV-B WATERSHED MANAGEMENT INITIATIVE

Since 1996, the City has been an active participant in the WMI, a stakeholder-driven process that strives to improve conditions of the South San Francisco Bay (South Bay) by addressing all sources of impairment that threaten the waterbodies draining into the South Bay. This collaborative effort includes representatives from state and federal regulatory agencies; regional and local public agencies; business and industrial trade organizations; civic, environmental, resource conservation and agricultural groups; and the general public. The WMI is led by a policy-making body, the Core Group, and is supported by numerous subgroups and task-specific work groups. The City has committed significant staff and fiscal resources, as have the Santa Clara Valley Water District (Water District), the cities of Sunnyvale and Palo Alto, and other stakeholders, to meet agreed-upon goals. City and tributary agency staffs are members of the Core Group and many subgroups. One of the goals of the WMI is to develop a community-based Watershed Management Plan for the Santa Clara Basin, which will allow for better protection and sustainability of the South Bay's natural resources.

### Findings and Accomplishments

Since January 2001, the following has been accomplished:

#### *Watershed Characteristics Report*

The complete *Watershed Characteristics Report*, the first volume of the *Watershed Management Plan*, was published in April 2001. This report describes the general, physical and political characteristics of the Santa Clara Basin, including water bodies, cultural resources, flora and fauna, geography, land uses, water management facilities, and the regulatory setting as it pertains to watershed management. The City provided resources to support the preparation and printing of this report.

#### *Watershed Assessment Report*

In March 2001 the City completed an amendment to the agreement with the Water District that will allow the City to reimburse the Water District for part of the consultant costs for conducting the watershed assessment for three pilot watersheds, Guadalupé River, San Francisquito, and Upper Penitencia Creeks. The results of that assessment will be the basis for the *Watershed Assessment Report*, Volume 2 of *the Watershed Management Plan*. The assessment will be used to determine the watershed's ability to support the appropriate beneficial uses including salmon/steelhead fisheries, rare and endangered animal and plant species, water contact recreation, water supply uses, and flood protection.

#### *Watershed Action Plan*

The City is one of the agencies leading the effort to plan the development of the *Watershed Action Plan*, the third and final volume of the *Watershed Management*

*Plan*. The City is also providing staff resources and technical expertise toward identifying the management action items that will make up this report. Beginning in May 2001, the subgroups of the WMI began presenting candidate action items that will undergo analysis using the results of the watershed assessment. These action items will be used to identify tasks that need to be performed to achieve the implementation objectives of the WMI, and ultimately, the WMI goals.

### WMI Vision

Last spring the City completed the design of a brochure to communicate to the public the vision of the WMI. This vision illustrates how a model community would look in 2050 if the *Watershed Management Plan* were implemented. The brochure will also provide the community with contact information on how they can become involved with the WMI and various stewardship programs and activities throughout the Basin. The brochure is ready to be sent to the printers.

### Regulatory Executive Forum

The Regulatory Executive Forum is intended to bring together high-level decision-makers from the regulatory agencies that oversee watershed activities in the South Bay. Attending agencies include the United States Environmental Protection Agency (U.S. EPA); the Regional Board; the Departments of Fish and Game and Fish and Wildlife; the Army Corps of Engineers; the cities of San José, Sunnyvale and Palo Alto; and the Water District. The Forum meets quarterly to track issues, regulations, and upcoming initiatives that may impact the local watershed. Recent discussions include the various South Bay permit and TMDL processes, the schedule for the 305(b)/303(d) listing process, potential uses for the State Revolving Funds, the proposed expansion of the San Francisco and Oakland airports, and plans for South Bay marsh restoration. The next meeting will focus on each agency's priorities for the South Bay.

### Alum Rock Park

In June 1999, the Regional Board required that the City prepare a Multi-Objective Stream-Riparian Corridor Management Plan for Upper Penitencia Creek in Alum Rock Park. As a result, several City departments began developing a plan for managing and enhancing the creek banks. The City's Departments of Public Works, Parks, Recreation & Neighborhood Services, and Environmental Services worked closely together to develop the Plan and also incorporated comments from WMI stakeholders. In June 2001, the City submitted the final *Alum Rock Park Riparian Management Plan* to the Regional Board.

The *Alum Rock Riparian Management Plan* is intended to be a working tool for use by Park staff to guide routine maintenance and stream bank stabilization activities. In addition to the City's stream maintenance work, the Upper Penitencia Creek watershed is one of the pilot watersheds being assessed by the WMI and the Water

District is conducting a flood control project at a section of the creek downstream of Alum Rock Park.

### *Riparian Restoration Action Plan*

The City has, with the assistance of a consultant, Jones and Stokes, Inc., prepared a draft *Riparian Restoration Action Plan* (Action Plan). The Action Plan is intended to promote and accelerate riparian restoration efforts in San José. The Action Plan was approved by City Council on January 9, 2001. In conjunction with that effort, the City, on behalf of WMI, is using a grant from the U.S. EPA/Regional Board to conduct a pilot restoration project to test and refine the Action Plan. The goal is to develop transferable blueprints for urban creek clean-up, restoration and protection projects applicable throughout the Santa Clara Basin and the entire San Francisco Bay area.

The pilot restoration project is located on a segment of Coyote Creek in the new William Street Park East, near downtown San José. An Advisory Committee comprised of members of the WMI, City staff, the Water District, Santa Clara County, and civic and environmental groups, is overseeing the effort. The committee presented the project plans to the Olinder Neighborhood Association and received the appropriate permits in early 2001. The City has also involved the nearby Olinder Elementary School. The restoration was completed in late March 2001. Final action items include the completion of the final report per our grant agreement and ongoing site maintenance activities.

### Facilitation Contract

The City is amending its contract with MIG, Inc. to extend the term through June 2002. The contract is for MIG, Inc. to provide independent facilitation to the Core Group and Subgroups as needed, as well as leadership on process issues, such as the evaluation of the process and value of the WMI.

## Next Steps

The following summarizes the next steps for the WMI:

- Continue providing resources and support for the *Watershed Assessment Report* and the *Watershed Action Plan*,
- Complete the *Watershed Action Plan* development,
- Disseminate the vision outreach brochure to communities and organizations,
- Continue participation in Regulatory Executive Forum, and
- Continue to fund contract for independent facilitation of Core Group and Subgroups.

## *IV-C WATERSHED GRANTS*

The Council approved the implementation of the fiscal year 2000/2001 Watershed Grant pilot program on April 18, 2000. The goals of the Watershed Grants Program are to:

- Foster and implement innovative solutions to local watershed problems,
- Encourage partnerships and joint ventures,
- Acquire new participants and challenge existing participants,
- Increase awareness of watershed issues, and
- Leverage resources.

There are three types of watershed grants available, Program, Operations and Youth Watershed Education Programs. A description of each type of grant and a Table 8 listing all grants given are provided below. The total funding amount was $300,000.

### Findings and Accomplishments

#### Operating Grants

The purpose of the Operating grants is to provided resources for stakeholders and other interested community groups to participate in such water activities as the Santa Clara Basin Watershed Management Initiative and other city watershed activities.

Each Operating Grant could not exceed $10,000. Five organizations received Operating Grants totaling $40,900 for fiscal year 2000/2001.

#### Program Grants

The purpose of the Program Grants is to fund specific projects intended to help advance the research and knowledge on the watershed and foster local natural resource stewardship. Each Program Grant could not exceed $50,000. The program grants funded projects such as:

- Programs or projects that would improve water quality, watershed restoration, waste load reduction, source control, flow reduction or other watershed related issues;
- Scientific studies that would improve the knowledge related to watershed issues; and
- Educational-oriented projects and activities.

Seven organizations received Program Grants totaling $196,600 for fiscal year 2000/2001.

### Youth Watershed Education Grants Program

The purpose of the Youth Watershed Education Program Grants (Youth Grants) is to promote understanding and stewardship of the Santa Clara Basin Watershed among South Bay youth (in grades K-12) by:

- Support of innovative projects for youth education,
- Curriculum development,
- Adoption and implementation of published watershed curricula, and
- Teacher/youth leader training.

Educators and youth leaders in San José, Santa Clara, Milpitas, Cupertino, Campbell, Los Gatos, Saratoga or Monte Sereno were eligible to apply for project support. The Watershed Education Grants did not exceed $5,000 and had a minimum award of $500.

During the 2000-2001 school year, a total of 13 grants were given for a total of $47,500. An additional $2,500 was provided to the Community Foundation for administration and oversight of grant funding for a total expenditure of $50,000.

## Next Steps

Upon receipt of the year-end reports in July 2001, we will begin grant program review and analysis to determine which goals were met and to recommend future watershed grant programs for approval of Council. Grants will be evaluated by a diverse group of individuals, in accordance with criteria set out in the Request for Proposal. The evaluation may include external reviewers such as the Community Foundation of Silicon Valley, the Technical Advisory Committee, and state and federal agencies.

Once approved by Council, the grants program may consider wider distribution of Requests for Proposals to City and WMI contacts. For instance, the grants program may place the announcement on the Environmental Services Department's (ESD's) website or on other media outlets such as the *San Jose Mercury News*.

# Table 8: Grant Funded Programs as part of the Operating, Program and Youth Watershed Grants Programs

| Type of Grant and Amount | Awardees | Activity |
|---|---|---|
| Operating - $10,000 | Santa Clara County Farm Bureau | Fund a water quality specialist to represent the Farm Bureau at the WMI. |
| Operating - $10,000 | San Francisco Estuary Institute | Provide organizational support for involvement in the WMI. |
| Operating - $8,134 | Greenbelt Alliance | Provide staff for active participation in the WMI. |
| Operating - $6,633 | Silicon Valley Pollution Prevention Center | Operating support for participation in the stakeholder process for developing the TMDL study. |
| Operating - $6,133 | Silicon Valley Toxics Coalition | Operating support for participation in the WMI. |
| Program - $35,000 | The Natural Heritage Institute | Operating support for on-going participation in the Fisheries and Aquatic Habitat Collaborative Effort. |
| Program - $22,000 | Aquatic Outreach Institute | Coordinate and hold a "Kids in Creek" Workshop for formal and informal educators of grades K-12. |
| Program - $45,000 | Peninsula Conservation Center Foundation | Provide a professional stream keeper to collect, clean, treat and propagate seeds collected from the San Francisquito and Stevens Creek Watersheds. |
| Program - $2,850 | Milpitas Foundation for Education | Prepare Milpitas-specific creek and resource information. Print and provide resource binders. |
| Program - $8,700 | Children's Discovery Museum | Support Transportation of students to Pioneer High School for access to the Guadalupé River for field study and investigation. |
| Program - $43,500 | Hacienda Involved Parents and Staff | Incorporate the Watershed Education Program into a sustainable and defining feature of the science education experience at Hacienda Science Magnet School. |
| Program - $40,000 | San Francisco Bay Bird Observatory | Participation in WMI. Monthly determination of bird species abundance and diversity at six sites. Measurement of vegetation characteristics to determine habitat characteristics. |
| Youth Grants - $700 | Project LEARNS | Watershed activities to afterschool program at Rosemary Elementary School. |
| Youth Grants - $500 | Hillsdale Elementary School | Water conservation classroom activities |
| Youth Grants - $5000 | Guadalupé River Park and Gardens Corp | Watershed curriculum development. |
| Youth Grants - $2,870 | CREEC Network Coordinator | Provision of funds to place an Assistant Coordinator to oversee and provide teacher training in Santa Clara County. |
| Youth Grants - $5,000 | Musical Theatre | Education of students about Santa Clara watershed, urban runoff and the need for recycling. |
| Youth Grants - $1,745 | Baldwin School | Education of students about the Guadalupé River watershed incorporating science into all other curriculum areas. |
| Youth Grants - $5,000 | Youth Science Institute | Development of curriculum and teaching kit, as well as the creation of a professional puppet show to increase student understanding of local streams, the Bay and watershed ecology. |
| Youth Grants - $3,500 | Middle School teachers | Incorporation of field trips and hands-on learning about Santa Clara watershed into 8$^{th}$ grade science curriculum. |
| Youth Grants - $3,985 | Russell Middle School teacher | Science Club members will use lab kit and video resources to do water quality monitoring on Calera Creek (adopted through SCVWD Adopt-A-Creek Program). |
| Youth Grants - $4,200 | Marine Science Institute | Will provide Discovery Voyage to 7 San Jose classrooms to learn how their personal activities affect the Bay and waterways of Santa Clara county. |
| Youth Grants - $2,300 | Santa Clara County Farm Bureau | Working collaboratively with Randol Elementary and Pioneer High School, Farm Bureau will coordinate work on a multi-media project on the Guadalupé River watershed. |
| Youth Grants - $2,200 | Kimberly Riggs, Environmental Volunteers | Support the provision of field trips for several San Jose schools to Palo Alto Baylands to teach students about the Bay and local watershed. Issues. |

## *IV-D REGIONAL MONITORING PROGRAM*

The Regional Monitoring Program (RMP) is a region-wide assessment and monitoring program administered by the San Francisco Estuary Institute on behalf of the Regional Board. The Program assesses sediment and water quality, and the toxicity and bioaccumulation of pollutants-of-concern. The RMP monitors various locations in the Bay, and currently samples twice per year during the winter and summer flow periods. The City supports one additional sampling station in the southern end of the Bay. The City also provides significant resources toward the Estuary Interface Pilot Study and the Atmospheric Deposition Pilot Study. City staff chairs the RMP's Technical Advisory Committee.

### Next Steps

The City will continue its active support and participation in the Regional Monitoring Program throughout 2001.

# V OUTREACH

The City of San Jose's (the City's) outreach programs provide several mechanisms to promote an awareness of pollutant and flow reduction programs the public and dischargers to the San Jose/Santa Clara Water Pollution Control Plant (Plant). The programs also describe pollution prevention and flow reduction techniques and practices that may be useful for industries, commercial facilities and residents.

## *V-A FLOW REDUCTION OUTREACH*

Outreach activities promoting flow reduction support the South Bay Water Recycling program (SBWR) and a wide array of water conservation programs.

### V-A1SOUTH BAY WATER RECYCLING OUTREACH

The purpose of SBWR outreach is to educate the public and customers about the benefits of recycled water and to increase its use among customers.

#### Findings and Accomplishments

SBWR (potential) customer, general public and school marketing activities for this reporting period included:

<u>SBWR (Potential) customer</u>

- Conducted customer outreach meetings;
- Analyzed results of SBWR Customer Satisfaction Survey and found that of the 57 responses received (38% of those surveyed), 71% rated the water quality as good or excellent, 79% rated the reliability as good or excellent, and 76% rated their recycled water service as good or excellent;
- Conducted two *Recycled Water Site Supervisor* training workshops;
- Provided customer and stakeholder presentations as requested;

<u>General Public</u>

- Participated in the Guadalupé River Park & Gardens *Spring In Guadalupé Gardens* and Summerdale School Math/Science Night Exhibit outreach events;
- Revised SBWR website;
- Completed *Recycled Water Demonstration Garden* interpretive sign;
- Produced a new SBWR fact sheet;
- Produced the *Water Challenges Brochure*, a joint venture with the Santa Clara Valley Water District (Water District);

- Produced two new give away items: a SBWR golf kit and a "Save My Pad" mouse pad; and

School

- Revised *South Bay Water Connections* environmental education activities and conducted two training workshops for middle school teachers presenting the revised activities.

### Next Steps

Anticipated marketing activities for the next reporting period include:

SBWR (Potential) Customer

- Conduct annual customer satisfaction survey;
- Publish and distribute revised SBWR Rules and Regulations;
- Provide two *Recycled Water Site Supervisor* training workshops;
- Publish and distribute revised SBWR Rules and Regulations;
- Provide construction outreach support and materials to contractors;
- Develop customer packet for industrial recycled water customers;
- Continue to offer customer and stakeholder presentation as requested;

General Public

- Conduct a stakeholder meeting regarding the SBWR Phase 2 expansion plan;
- Present information on SBWR to members of business trade associations, and community and environmental groups;
- Update SBWR collateral, customer binder, and trade-show materials;
- Produce *Recycled Water Demonstration Garden* brochure and train garden docents;
- Participated in City community festivals; and

Schools

- Conduct *South Bay Water Connections* environmental education activities workshops for middle school educators.

## V-A2 INDOOR WATER CONSERVATION OUTREACH

The City provides public outreach regarding flow reduction and water conservation in the residential and business sectors. Outreach activities for this reporting period are presented below. Oftentimes, the City partners with the Water District on outreach efforts. Such partnership provides the double benefit of water savings for the Water District and reduction of influent wastewater flows for the Plant.

## Findings and Accomplishments

### *Fix It* Guide

To provide continued support to the Water District's Water-Wise House Calls program, the City designed and produced the *Fix It* guide. Geared toward even the inexperienced do-it-yourselfer, the *Fix It* guide gives practical solutions for repairing leaky faucets and toilets. These leaks can account for 9% of water use from an average home, so fixing the leaks means significant water savings and flow reduction.

The guide was distributed through several avenues. In addition to ongoing distribution through the House Calls program, the City provided guides along with new Ultra Low Flush Toilets (ULFTs) installed through City programs. The City also participated in the Spring Home and Garden Show, Earth Day, and Council member events to promote the *Fix It* guide and encourage attendees to fix their leaks as part of the Water-Wise House Calls program.

### Bill Inserts

In preparation for the dry weather period, the City designed the *Water, Why Conserve When It's Not a Drought Year?* pamphlet, produced in English and distributed as garbage bill inserts to 195,000 households in San Jose during May 2001. The bill insert listed reasons for reducing wastewater to the Plant and provided tips for indoor water conservation.

### Water Efficient Technologies

The City's marketing efforts for Water Efficient Technologies (WET) are directed at commercial and industrial businesses. The goal is to foster participation in the WET program, which offers rebates of up to $50,000 for equipment changes that reduce flows. Recent tactics include outreach through four professional and business associations; recognition ads in two major local newspapers; advertising on newspaper and association internet websites and direct mailings to targeted groups of business people.

Although increases in application submittals remain to be seen, several engineering and water treatment systems suppliers have expressed an interest in knowing more about the incentive program. Their involvement could provide another avenue to reaching our business sectors.

### Website

The City continued updating the www.slowtheflow.com website. The site now features the *Fix It* guide. The toilet installation page was also updated with easy-to-use instructions for retrofitting to an ULFT.

## Next Steps

### Save Energy, Water and the Environment Campaign

Supporting current concerns about the reliability of energy supply, the City and Water District are developing jointly a campaign called "Save energy, water and the environment." Slated to run through the summer, this campaign will encourage residents to conserve energy by saving water. The new campaign will include Spanish, Vietnamese as well as English outreach elements. Various media will be used including television, radio, print advertising, transit posters, and theater slides.

The Water District's goals for the campaign are:

- To reduce water demands during peak periods this summer;
- To educate the public that the energy crisis affects water supply and delivery; and
- To inform the public that the district is doing all it can to prepare for the summer challenges (redundant power backup, etc.).

The City's goals are:

- To educate the public about the South San Francisco Bay (South Bay) and its habitat and
- To present reasons for indoor water conservation in relation to the South Bay and the Plant.

### *Water For Summer* Campaign

At seven percent of California's total electricity use, providing and treating water is a very significant use of electricity.[1] Therefore, the Water District will be conducting a water/energy conservation campaign this summer to help County residents make the connection between the two and inspire them to save water, especially during the peak use hours of from 7 to 10 PM. The City will be supplementing the District's program with additional ads that tie water/energy conservation to the health of the South Bay.

### Water Efficient Technologies

Work in the next period will include building more program support through contractors and service providers whose customers coincide with our own. To the extent that their services are related to flow reduction, the WET program incentives can be included as service and project options are developed for their clientele.

[1] According to the Bob Wilkinson, Ph.D., University of California in Santa Barbara

## *V-B POLLUTANT REDUCTION OUTREACH*

This section features highlights and assessment of the City's pollutant reduction outreach activities. Regional coordination and collaboration efforts on regionally applicable pollutants and issues are discussed under *Regional Outreach* section. Under *General Outreach* section, public education efforts for the general public are discussed. The *Targeted Outreach* section focuses on delivery of information about specific issues, pollutants or behaviors to segments of the general audience. These audience segments include educators, and non-English speakers. *Commercial and Industrial Outreach* section discusses marketing in these areas. New and specialized materials and Best Management Practices (BMPs) are discussed in the *Specialized BMPs and Materials* section.

The City's two National Pollutant Discharge Elimination System (NPDES) Permits drive the City's pollutant reduction outreach strategies. For pollutant reduction outreach, the City has both a short-term and long-term approach:

- Short-term (minimize pollutants) - Reduce immediate pollutant loads to the South San Francisco Bay by targeting selected polluting behaviors for reduction.
- Long-term (pollution prevention) - Develop a sufficient knowledge base within the population so they
  1) Better understand the impact of their behaviors on the environment,
  2) Value and select less polluting or non-polluting behaviors.

### Short-term Approach - Minimize Pollutants

The City is able to identify polluting behaviors and target them for elimination or reduction by using its knowledge of pollutants and how those pollutants enter the water. Once identified and targeted, non-polluting behavioral alternatives are introduced to the target audiences. The best ways to change behaviors in each audience are identified through the use of surveys, focus groups, and presentations from subject matter experts.

Individual Publicly Owned Treatment Works (POTWs) are negligible sources of some pollutants, such as mercury. The City participates and supports regional programs and activities that offer the greatest potential to reduce these pollutants. This has the added benefits of consistent regional messages and shared cost of program implementation.

### Long-term Approach - Pollution Prevention

This approach consists of:

- Reiterating fundamental watershed and water pollution prevention messages to the general population over a long period of time, with the goal of changing

behavior and reducing current pollutant loads to the maximum extent practicable.

- Introducing fundamental watershed and water pollution prevention messages to the next generation of decision-makers through selected school activities.

## V-B1 REGIONAL OUTREACH

The City participates in regional groups that deliver the fundamental messages to the public and to schools.

### Findings and Accomplishments

#### Restaurant Grease Information Sheet

The City played a key role in developing the Bay Area Pollution Prevention Group's (BAPPG) new regional *Restaurant Grease Information Sheet*. The sheet was distributed to the 38 Bay Area POTWs that participate in BAPPG in March 2001, and is available in electronic format.

#### Region-wide Spanish Outreach Materials Database

A region-wide database of wastewater and stormwater pollution prevention materials available in Spanish was distributed to the BAPPG members in April 2001. More details about this project are available in "Targeted Outreach" (section V-B3.1 below).

#### San Francisco Bay Regional Water Quality Control Board and BAPPG Steering Committee Meeting

The City met with members of the San Francisco Bay Regional Water Quality Control Board (the Regional Board) and BAPPG's Steering Committee to discuss BAPPG's role in regional pollution prevention. Highlights of the meeting included a recap of BAPPG successes and products during its 10 year existence, and a discussion of coming issues of concern to the Regional Board.

#### Pest Control Operator Training Planned

In the January 2001 CBS report the City discussed the benefit of sharing the costs of a regional Pest Control Operators Study project. The study identified Pest Control Operators (PCOs) as a significant target audience for regional outreach. It also recommended PCO training for Agency and School District staff involved in pesticide application in the South Bay. Based on the study findings, the City supported a proposal presented at BAPPG's February meeting to host a training for municipal and school district staff that either apply or make decisions about pesticide application. The City coordinated this proposal with the Santa Clara Valley Urban Runoff Pollution Prevention

Program (Urban Runoff Program), which will host the training in the South Bay.

### Watershed Education and Outreach Ad Hoc Task Group

Watershed Management Initiative (WMI) and the Urban Runoff Program share many of the same messages and audiences. Over the last two years, the City has worked with the Urban Runoff Program and WMI representatives, and with interested parties. Projects included developing a strategy for delivery of public education messages common to the two groups, a Request for Proposal to select a contractor to implement the strategy, and a workplan for implementation. In December 2000, a one year workplan and three year conceptual plan for implementing the Watershed Education and Outreach Ad Hoc Task Group (WE&O) strategy were approved. The City is working with the Urban Runoff Program and the WMI to coordinate work and messages of all three over the three year life of the workplan. Next steps include participation in the process of developing a logo and the first written informational piece for the WE&O campaign.

### Media Relations Project

The City participated in the Media Relation's Committee to develop their annual workplan, press releases, and text for Public Service Announcements. Several Bay Area newspapers wrote articles based on four press releases on less-toxic pest control. On June 3, 2001 Channel 4 conducted a live interview with one of the media spokespersons for the project. These media relations successes generated calls for information about less toxic pest controls. The City proposed that the committee consider how to coordinate media relations activities with other regional outreach efforts promoting the same messages such as Bay Area Storm Management Agencies Association's (BASMAA's) Regional Ad Outreach.

### List of Public Participation Opportunities

The City completed development of a list of existing public participation opportunities currently available in the vicinity of the Santa Clara Basin. The list is intended to provide high quality opportunities for the public to become involved in learning about restoring and preserving their watershed. It features 58 activities provided by 33 groups agencies and organizations. Next steps include posting the list on the web and advertising the list through the WMI and WE&O Outreach.

### Other Regional Outreach Activities

City Staff continued their active participation on the outreach committees of the WE&O, Bay Area Clean Water Agencies (BACWA), the BAPPG, the Urban Runoff Program, the WMI, Mid-Peninsula Environmental Educators

(MEEA), and BASMAA. Below highlight some of the activities not mentioned in previous sections.

- Coordinated the review of regional Spanish radio ads for BAPPG's Spanish Radio ad campaign on radio station KSOL,
- Drafted two new radio spot featuring mercury pollution prevention information for Spanish speakers,
- Coordinated budget processes between BAPPG and BACWA,
- Assisted in the development of a website for BACWA,
- Co-Facilitated the BAPPG annual pollutant and issue prioritization process,
- Chaired the Public Education and Technology Transfer Committee of BAPPG,
- Chaired the WMI Outreach Subgroup,
- Participated in BAPPG's mercury workgroup, and
- Developed a list of existing public participation opportunities provided by organizations in the South Bay Area.

## V-B2 GENERAL OUTREACH

The General audience includes all residents. The City delivers its messages to this audience through participation in regional and City-sponsored activities including tours, events, ads, outreach campaigns, and a website. While updates on selected elements are presented below, please refer to Appendix H updates on the complete list of activities.

### *V-B2.1 WEBSITE*

Website Updates

Environmental Services Department's (ESD's) continually updates its website to incorporate new information for each program. ESD also sponsors WMI's website at http://www.scbwmi.org.

Website Evaluation Project

In early 1999, national survey information indicated that between 6 and 10 percent of Americans visited the internet daily, and as many as 50% had visited the internet at least once. The same sources indicated that web users were more likely to be responsive to requests for survey information, with a voluntary response rate as high as 35%, a finding supported by the City's contractor on the project. The City's web "hit" counter indicated several thousand visitors to the web site monthly, and the City's website appeared to offer substantial opportunity for information gathering in real time. Based on the high visitor rate and

high voluntary response rates, in late 1999 the City piloted a real-time website evaluation survey, and put the survey on-line in February 2000. The survey solicited information about web use, behaviors relating to water pollution, and understanding of wastewater and stormwater messages. The survey was voluntary, and no incentives were offered, based on the expectation of a high voluntary response rate.

The results were surprising. There were far fewer public visitors to the City's website than previously thought. The City's "hit " counter did not distinguish between internal and external visitors and every employee that visits the internet counted as a "hit". Fewer than 10 "visitors" responded by taking the survey: All were employees of the ESD. Not one external visitor elected to take the survey voluntarily. When the City looked at national internet use again, internet use had skyrocketed; 67% percent of Americans now visit the internet daily! The problem with response appears to be an artifact of that growth. When the project was conceived, there were just a few enthusiasts visiting the internet placing a high premium on information gathering. By the time the project launched, internet visitation had increased to the point where voluntary response rates on the internet closely resemble those expected in the general population: 2 % is average, and 5 % is considered good.

The project has been terminated. The City will apply the lessons learned in this survey project to other assessment projects in the future. Lessons learned include:

- For a response rate better than 2%, use an incentive, an involuntary survey mechanism, or both.
- Survey concepts that apply in standard marketing may also apply to the internet, because the population of internet visitors today more closely resembles the general population.

All of the City's ESD web information pages can be found at ESD's home page: http://www.ci.sj.ca.us/esd

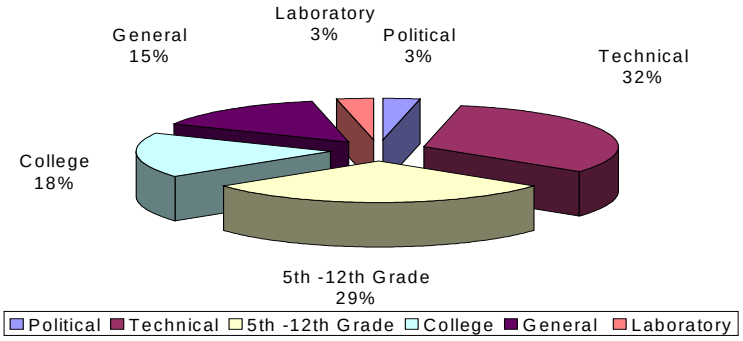
### *V-B2.2 PLANT TOURS*

The City uses tours to highlight the direct link between a visitor's actions and the South Bay. Emphasized are the importance of pollution prevention, the need for water conservation, wastewater treatment, the use of recycled water, and the Plant's connection to the San Francisco Bay National Wildlife Refuge and, ultimately, the South Bay.

#### Findings and Accomplishments

During the reporting period, 34 tours were given to a total of 594 visitors. The audience segments reached by these tours are illustrated in Figure 10.

## Figure 10: PLANT TOURS (by Audience Segment)




Grant funding allowed the continuation of the "Slow the Flow" Program, which incorporates back-to-back tours of the Plant and the National Wildlife Refuge with activities for 5th to 12th grade students. These tours provided students with a direct connection between the Plant and the wetlands. Of the exit survey respondents, 94% knew the difference between the storm water and wastewater paths, after participating in the City sponsored joint tours/Slow the Flow educational programs at the Refuge. Plans to contact respondents at a later date to see if the knowledge or behavior change is permanent are still being formulated.

#### Next Steps

The city plans to create a web page that will allow educators on-line access to tour information. We will also the complete a Tour Booking process manual with and an easy-to-use bus procurement process for educators in need of transportation to the Plant and/or Refuge.

## V-B3 TARGETED OUTREACH

The City delivers its outreach messages to targeted audiences using events, website, tours, and presentations.

### *V-B3.1 SPANISH AND VIETNAMESE SPEAKING AUDIENCES*

The City took the lead in developing a database of pollution prevention materials available in Spanish. The database features over 70 different wastewater and stormwater pollution prevention outreach materials, and was distributed to the BAPPG's 38 member POTWs and made available to BASMAA.

### *V-B3.2 SCHOOL AND YOUTH OUTREACH*

School programs continued to stress the importance of storm drain pollution prevention to protect our creeks and the Plant's protection of the South Bay through water conservation, and the various uses and value of reclaimed water. Most importantly, the programs provide the connection between the personal, daily activity of residents and creeks, wetlands and the South Bay.

#### Findings and Accomplishments

- Participation of 36 teachers and/or outdoor educators in two workshops in February 2001 that highlighted the importance of storm drain pollution prevention to protect our creeks (specifically tailored for Milpitas creeks).
- Observed sophomore and senior student presentations as a part of a grant-funded Service Learning project at Pioneer High School in May 2001. The project provided students the opportunity to connect local community service projects to protection of their local creek using the Service Learning framework.
- Completed Kids-In-Creeks curriculum training of all elementary science resource specialists within the Plant service area.
- Created Citywide maps for Milpitas of local creeks and nearby schools as a tool for educators using the Kids-In-Creek curriculum.
- Provided watershed-related activities at the Summerdale School 4$^{th}$ Annual Math and Science Night in February 2001, which was attended by 40 students and 20 parents.
- Oriented seven new teachers for joint tours/Slow the Flow program.
- Participated with the Sunnyvale POTW in a joint presentation at Briarwood school in Santa Clara. Topics covered were water conservation, pollution prevention and the importance of the two treatment plants in protecting the South Bay ecosystem.

#### Next Steps

Next steps include the development of a youth activities database that will aid in the coordination of all youth-related activities currently provided by ESD. The City will also continue evaluating the various programs provided to youth in schools in the Santa Clara Basin.

## V-B4 COMMERCIAL AND INDUSTRIAL OUTREACH

The City delivers its outreach messages to commercial and industrial audiences using events, its website, tours, speaking engagements, its Industrial User (IU) Academy, and the *Tributary Tribune* IU newsletter.

### *V-B4.1 INDUSTRIAL USER ACADEMY*

The IU Academy provides classes for industrial users on topics specific to their industries.

#### Findings and Accomplishments

During the reporting period, the city held four sessions of its IU Academy class "Pretreatment Program for Permitted IUs." At the request of Applied Materials, a semiconductor equipment manufacturer, two of these sessions were held on location at their facilities. The classes were specifically tailored to address Applied Materials' pretreatment wastewater discharge concerns. The actual Applied Materials permit and factsheet were used in class during the permit application, permit and permit factsheet portion of the class.

#### Next Steps

The IU Academy conducts exit surveys to evaluate the self-assessed increase in knowledge of participants on specific topics from before and after each session of the Academy. Class participants continue to indicate better understanding of topics like permitting, self-monitoring, and storm water Notice of Intent requirements after attending the classes, and there is a continuous waiting list for the class. IU Academy classes will continue to be held. The IU Academy is re-evaluated annually, and modified as necessary to address new issues and topics. The concept of taking the IU Academy on location directly to the IU will be studied further.

### *V-B4.2 THE TRIBUTARY TRIBUNE*

The *Tributary Tribune* is a newsletter informing industrial users of important environmental issues affecting them. Appendix I includes the Winter and Spring 2001 *Tributary Tribunes*.

#### Industrial User Survey

The City has been implementing an organizational development process called Investing in Results. As a part of that effort, staff has defined core services such as "Manage Wastewater". In March 2001, the ESD surveyed its permitted IUs to gauge customer satisfaction with the services provided. 88% of survey respondents, who expressed an

opinion, rated ESD either good or excellent in providing services to "Manage Wastewater".

Tributary Tribune Topics

In the Winter 2001 newsletter dischargers were:

- Asked to review their chemical inventory for use of tri-butyl tin, following a monthly-average NPDES permit limit violation at the Plant.
- Educated on sources of mercury to the South Bay, and ways they can identify and control mercury sources at their businesses.
- Informed of the stream flow augmentation project's goals and status.
- Encouraged to use the WET program to reduce wastewater flows, and recognition was given to dischargers who had done so.
- Provided the IU survey.

In the Spring 2001 newsletter dischargers were:

- Educated on the potential for pollutants in their roof runoff and given BMPs to minimize such pollutants coming from their exhaust ventilation.
- Informed of ESD laboratory research to improve quantification limits, and the benefit to industry of better water quality data.
- Provided as an insert an updated Notice of Intent (NOI) worksheet and reminded of the consequences of not filing a NOI.
- Encouraged to use the WET to reduce wastewater flows, and recognizing those who had done so. program through a "Slow the Flow" graphic ad.
- Notified of the posting of a summary report describing the science behind research into lowering quantification limits under ESD website under "Publications and Research."
- Notified of the posting of contaminated rooftops photos and suggested BMPs to prevent such situations under ESD website "Storm Water Discharge."

### Next Steps

Topics in the upcoming Summer 2001 issue of the *Tributary Tribune* include: changes to the Pretreatment Program, results of our 2001 Industrial Users Survey, Siliconix WET (a flow reduction program) rebate, and tips on avoiding surveillance monitoring detected violations.

### *V-B4.3 SPECIALIZED BEST MANAGEMENT PRACTICES AND MATERIALS*

The updated NOI evaluation form was also uploaded to the ESD website's "Storm Water Discharge" section.

# Appendix A

## Clean Bay Strategy Timeline

# Appendix B

## Trunkline Monitoring Program's Monitoring Sites and Copper and Nickel Loading Figures

**Figure 1: Trunkline – Upstream Monitoring Sites**

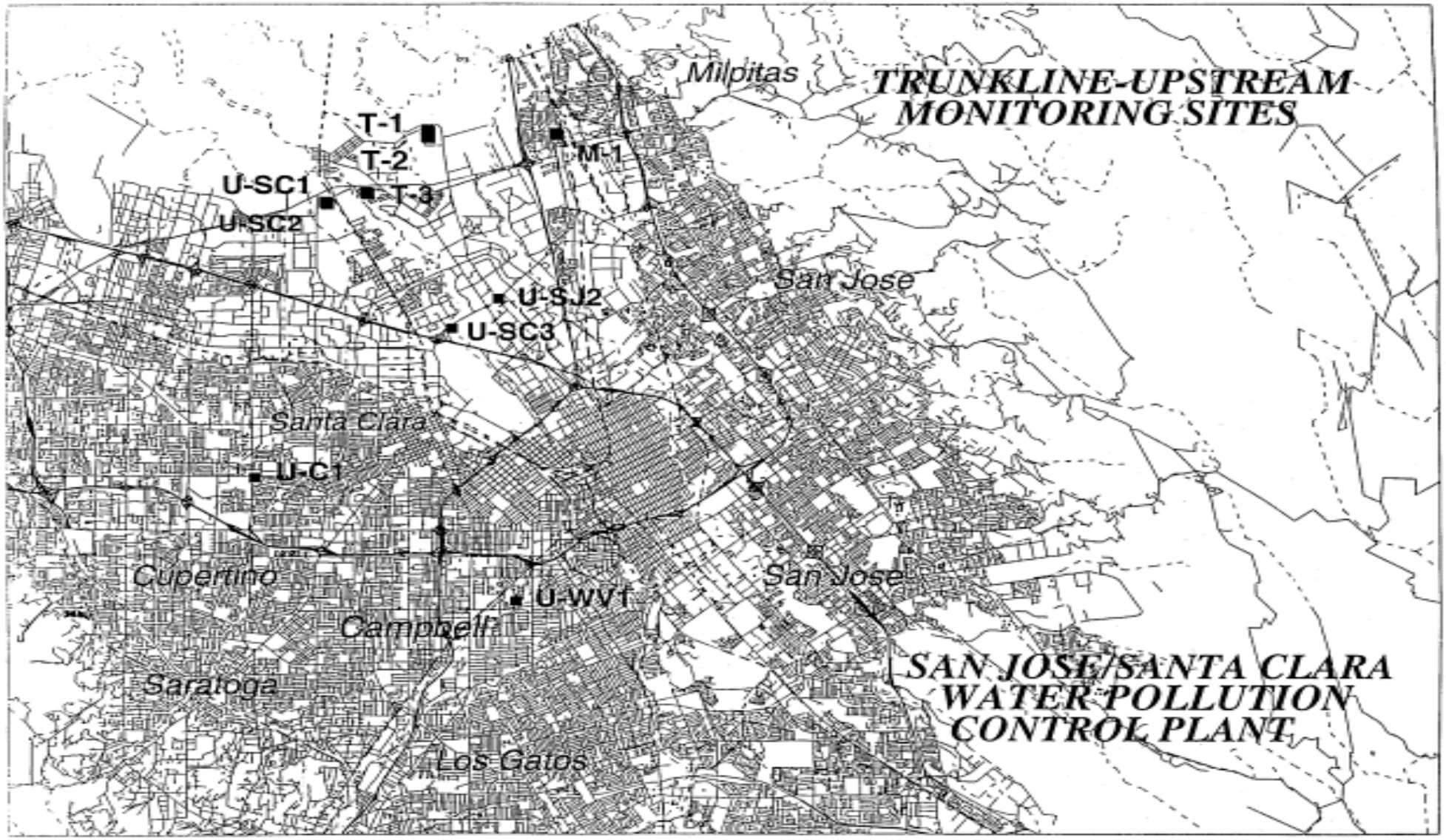
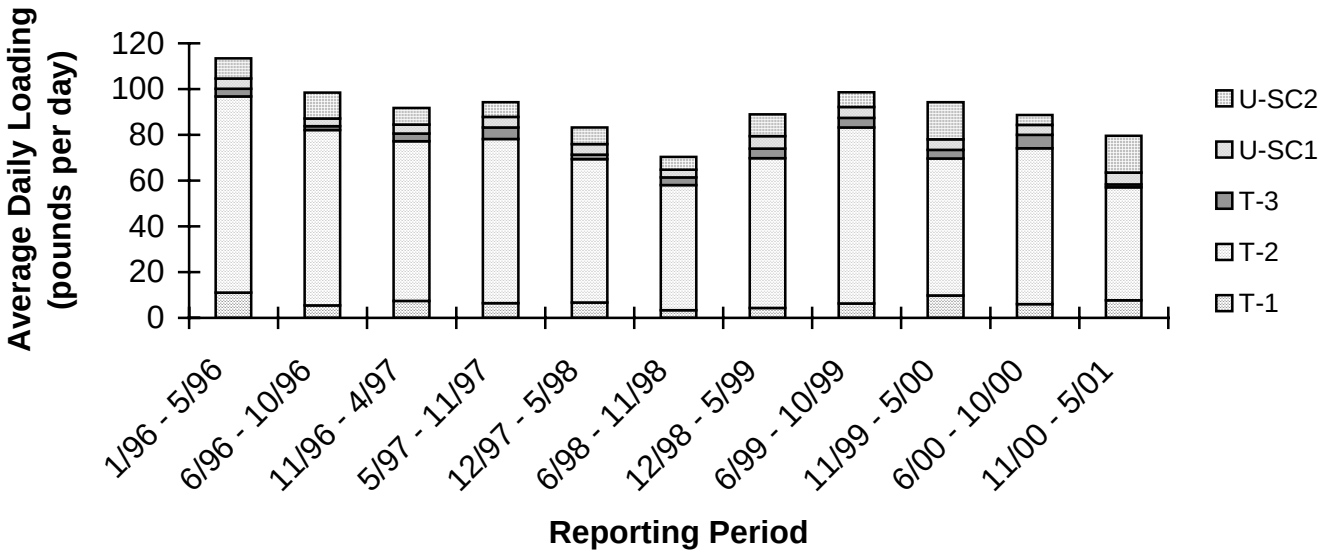
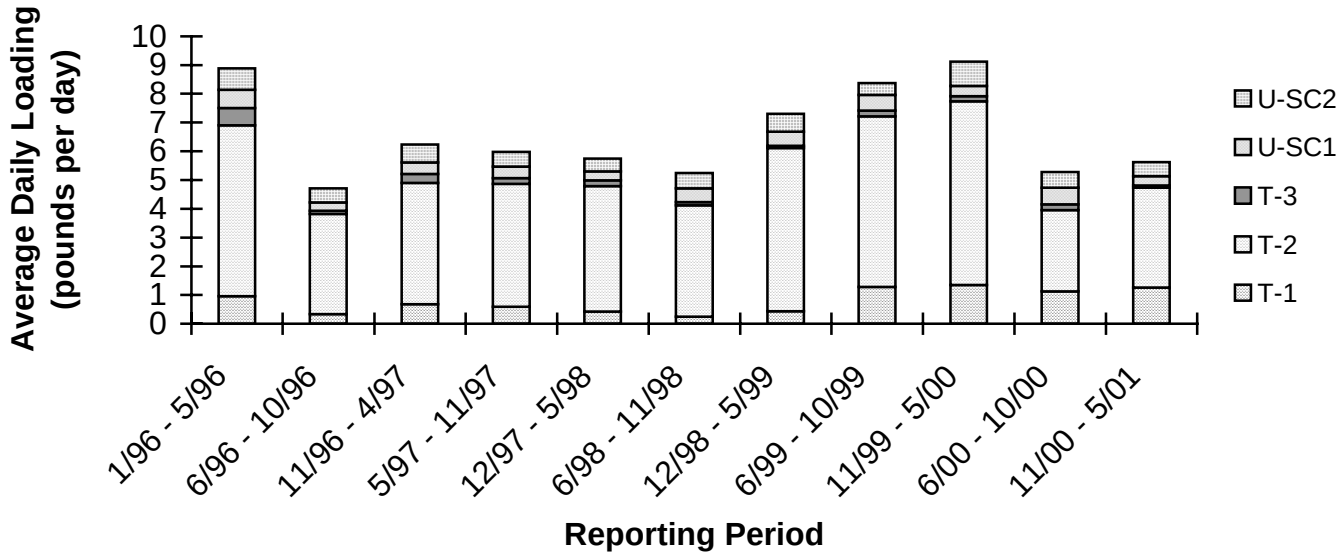



Diagram A

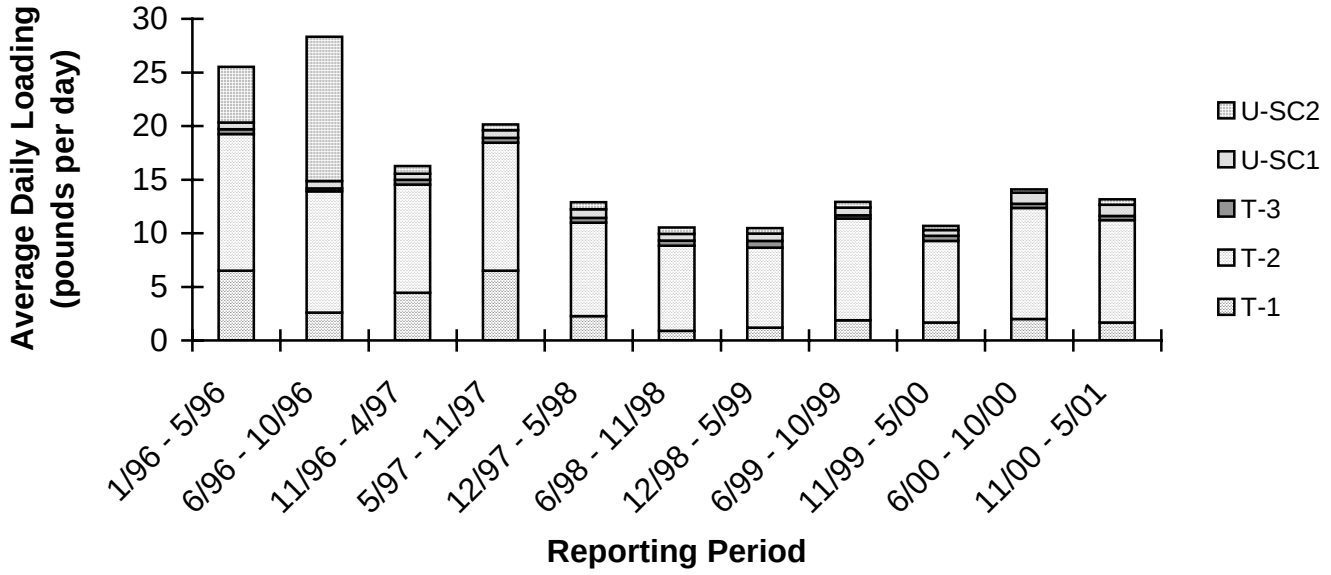
## Figure 2: Total Copper by Trunkline



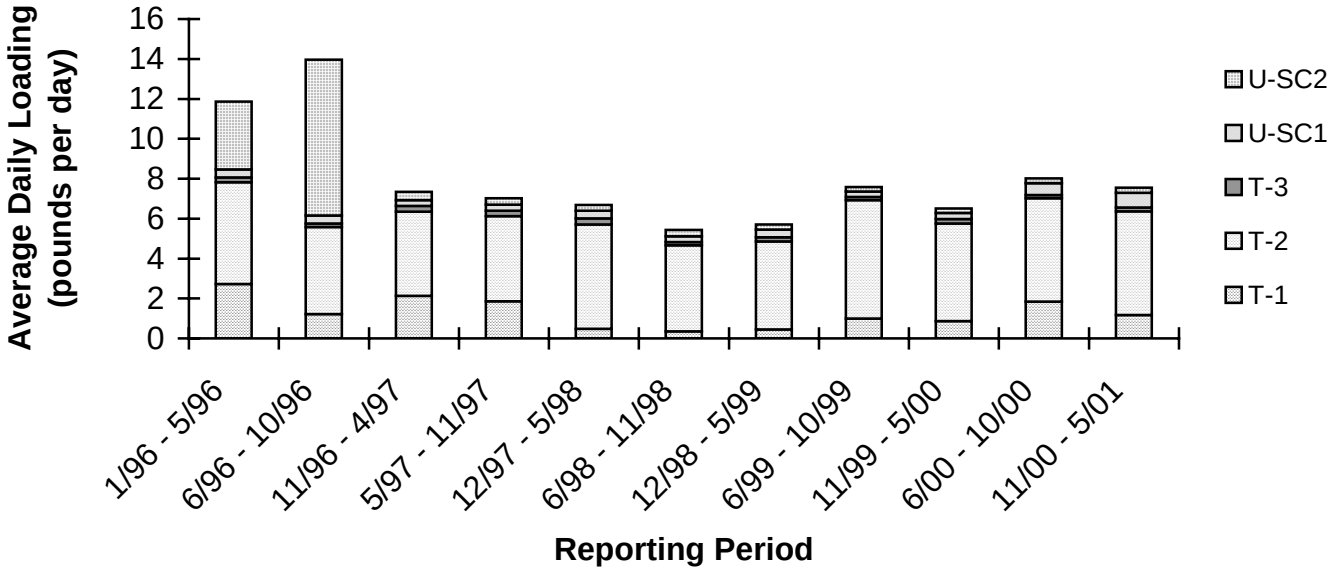

## Figure 3: Dissolved Copper Loading by Trunkline



## Figure 4: Total Nickel Loading by Trunkline




## Figure 5: Dissolved Nickel Loading by Trunkline



# Appendix C

***South Bay/Fairfeild-Suisun Trace Organic Contaminants In Effluent Study***

Final Update

The above report is available upon request or online. For a copy call (408) 945-3000 or go to http://www.sfei.org.

# Appendix D

### *Task 10 Copper Action Plan*

Revised February 2001

The above report is available upon request or online. For a copy call (408) 945-3000 or go to http://www.ci.san-jose.ca.us/esd/pub_res.htm.

# Appendix E

### *Task 10 Nickel Action Plan*

Revised February 2001

The above report is available upon request or online. For a copy call (408) 945-3000 or go to http://www.ci.san-jose.ca.us/esd/pub_res.htm.

# Appendix F

## City of San José Fact Sheets on Copper and Nickel Monitoring

- *Spatial and Temporal Trace Level Monitoring in the South San Francisco Bay, February 2001*
- *Development of a Site-Specific Criterion for Copper in South San Francisco Bay*
- *Calculation of Total Maximum Daily Loads for Copper and Nickel in South San Francisco Bay*

# Appendix G

## *Task 2.1 Source Characterization Report*

Final Report, August 2000

The above report is available upon request or online. For a copy call (408) 945-3000 or go to http://www.ci.san-jose.ca.us/esd/pub_res.htm.

# Appendix H

## Outreach Activities for January – June 2001

- Table 1 lists the outreach material currently available for use by City staff. In all, over 5,900 pieces of material were distributed to Watershed Protection sewer audiences during the reporting period.
- Table 2 lists the printed materials distributed by City Inspectors in the Illicit Connections/Illegal Discharges (IC/ID) Program.
- Table 3 lists printed materials developed by the City and used by Watershed Protection staff.
- Figure 1 shows the material distribution to program sections
- Table 4 lists the distribution of Outreach Material for the 6-month period: from 12/1/00 through 5/31/01.
- Table 5 lists the Environmental Enforcement outreach materials distribution.

All “premium” and discontinued items have been deleted.

# Appendix I

## Winter and Spring 2001 *Tributary Tribune*